

GREEN 735

NOTEBOOK COMPUTER

SERVICE MANUAL

Version :1.0

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— GVC/ALPHA-TOP —

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Chapter 1 Green 735 Specification

1..General Description

This document describes the detailed product specification of Green 735 notebook. Green 735 is a full function, high performance notebook PC providing complete multimedia function. The notebook has CD-ROM and FDD drive built-in to provide the portability of notebook PC.

2..CPU

- Intel Pentium P55C-166 up to Tillamook-266
- AMD K6-166/200/233/266/300 (For Mobile)
- TCP/SPGA (socket 7) daughter board
- Bus clock up to 66MHz

3..Core Logic

- Intel 430TX
- Supports USB
- PCI 2.1 compliance
- Supports ACPI

4.. Memory

4.1..Main Memory

- 0 or 16MB memory on board
- 8/16/32/64 MB memory options
- Two 144 pin SODIMM type memory slots
- Supports EDO/Synchronous DRAM (W/O 64MB SDRAM)

4.2..ROM

- 256KB Flash ROM
- Boot block protection, factory optional

4.3..Cache Memory

- 512 KB L2 write-back cache, burst pipeline synchronous SRAM

5..Mass Storage

5.1..HDD

- Enhance IDE interface, PIO mode 4
- 2.5" 12.7mm HDD, removable

5.2..FDD

- 3.5" 720KB/1.2MB/1.44MB FDD supported

5.3..CD-ROM drive

- 5.25" standard CD-ROM

Chapter 1 Green 735 Specification

- 20X speed or higher
- Enhance IDE and ATAPI interface

6..Graphic and Video

6.1..Video Control

- Neo-Magic NM2160 / 2097

6.2..Feature

- Software MPEG1
- Full power management
- Supports up to 1024X768X64K color on external CRT (For NM 2160)
- Supports 1024X768X64K color LCD(TFT) (For NM 2160)

6.3..Video Memory

- 2MB / 1.12 MB RAM on-chip

6.4..LCD Display

- Supports 13.3" TFT XGA color LCD
- Supports 12.1" TFT SVGA color LCD
- Models : 13.3" TFT Samsung LT133X1-104
 Sharp LQ13X02A
 12.1" TFT Samsung LT121S1-105
 Sharp LQ121S56A

7..I/O Ports

7.1..I/O controller

- NS 97338

7.2..Standard Ports

- One 16550 UART RS-232 serial port (9-pin male D-connector)
- One parallel port supports EPP/ECP (25-pin female D-connector)
- One video port for external analog VGA monitor (15-pin female D- connector)
- One external auto-sensed PS/2 keyboard/mouse connector (6-pin mini-DIN connector)
- One DC input port for external AC adapter (2-pin DC jack)
- One type III or two type II PCMCIA card socket
- One port replicator connector (204-pin connector)
- Line-in, Line-out and Mic in
- One FIR port
- One USB port
- One Game port (factory option)

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- One S – Video connector

7.3..PCMCIA

- Controller : O₂ Micro Oz6833 with ACPI compliance
- Compliance to PCMCIA 2.1 and Cardbus
- Supports ZV port

8..I/O Device

8.1..Keyboard

- US/Europe, DOS/V keyboard for Japan, full size keyboard alike pitch
- Key stroke 3mm
- Twelve function keys and Windows95 function keys
- Inverted “T” cursor control keys layout
- Internal keyboard works as standard 101/102 keys desktop keyboard

8.2..Pointing Device

- Touchpad
- External PS/2 mouse can be used concurrently with internal pointing device

9..Sound System

9.1..Controller

- ESS 1879

9.2..Features

- Hardware Wavetable sound (Factory option)
- 16-bit stereo
- Microphone and two speaker built-in
- Sound Blaster, Sound Blaster Pro compatible and Microsoft sound system for Windows compatible

10..Wireless Communication Device

10.1..Infra-Red

- Fast IrDA compliance

11..System Software

11.1..System BIOS

- Phoenix BIOS 4.06 or later

11.2..Video BIOS

- Neo Magic 1.16 or later

11.3..Operation System

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- Optional MS-DOS 6.22 or above version
- Optional Windows 3.11 or above version
- Optional Windows 95 OSR2 or above version
- Optional Windows NT4.0 or above version

12..CMOS Setup

- Display system information
- Password protection
- Supervisor and user password supported
- No cursor stop if item is unchangeable
- Block mode IDE supported
- Boot block protection

13..Power Management System

13.1..PC97 specification

- ACPI compliance
- Hot key suspend
- Timer, modem ring triggered resume

13.2..Feature

- SM bus system supported
- Suspend or warning beep on low battery
- Suspend to HDD on critical battery

14..Power Subsystem

14.1..AC Adapter

- Universal type AC adapter output maximum 56W

14.2..Smart Battery

- Battery pack with 10 X 17670 Ni-MH battery @48Whr
or Factory optional 9 X 18650 Lithium-Ion battery @45Whr
- Charge time for one battery pack (Base on Ni-MH battery: 48Whr and
Li- Ion battery :45Whr)

	system off or in suspend	system on
NiMH	2~3 hours to full charge	5.5 hrs
Li-Ion	4~5 hours to full charge	10 hrs

- Removable and rechargeable
- Battery gas gauge function supported, providing accurate battery charging and discharging status

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- Battery status indicator is showed on LCM

15..Human Factors

15.1..Dimension

- 309mm(W) × 241mm(D) × 51.5mm(H)
- 12.16"(W) × 9.49"(D) × 2"(H)

15.2.. Weight : (Equips 12.1 TFT LCD , CD-ROM , FDD)

- 3.3Kg (W / 45Whr,Li-Ion Battery and HDD)
- 7.27lbs (W / 45Whr,Li-Ion Battery and HDD)

15.3.. LCM indicator

- AC-in
- Battery gas gauge
- Num lock
- Caps lock
- Scroll lock
- Pads lock
- HDD
- FDD
- CD-ROM
- PCMCIA
- Suspend

15.4..Hot key

- | | |
|---|--------|
| • Display mode (LCD/CRT/Simultaneously) | Fn+F12 |
| • Display Expand / Non-Expand | Fn+F11 |
| • Suspend | Fn+F8 |
| • Sound Mute / middle / loud | Fn+F5 |
| • Contrast up | Fn+F4 |
| • Contrast down | Fn+F3 |
| • Brightness up | Fn+F2 |
| • Brightness down | Fn+F1 |

16..Accessories

- AC adapter
- Power cord
- User's manual
- Utility diskettes
- Carrying bag
- Game port transfer cable (option)

Chapter 1 Green 735 Specification

17..Optional item

- Spare battery pack
- Port replicator
- External charger

18..Environment

18.1..Temperature

- Operation : 5°C ~ 35°C
- Non operation : -20°C ~ 60°C

18.2..Humidity

- Operating : 30% ~ 90% (non-condensing)
- Non-operating : 5% ~ 95% (non-condensing)

18.3..Altitude

- Operating : -200 ~ 10000 ft
- Non-operating : -200 ~ 30000 ft

18.4..Shock

- Operating : 10G , 11ms
- Non-operating : 50G , 11ms

18.5..Vibration

- Operating : 10 ~27 Hz , 0.01"
- Non-operating : 5 ~ 62 Hz , 0.02"

18.6..Drop

- 900mm

18.7..Noise

- 40dB (max.) at 1 meter when FDD idle
- 45dB (Max.) at meter W/FDD

18.8..ESD

- Test specification to IEC 801-2 / 84 standard level 1 - 4

18.9..P.L.T.

- 1 KV : no any error

19..Regulation

19.1..Safety

- UL , CSA , TUV
- T mark (AC/DC adapter only)

19.2..EMI

- FCC class B , Part 15 , VCCI , CE

19.3..Design for Windows NT and Windows 95" logo

Chapter 1 Green 735 Specification

20..MTBF

- 25K hrs , 90% confidence level

ADAPTER SPECIFICATION :

1. F1700C18 : Manufactured by ILAN Electronics Co., Ltd.

Specification Table

	F1700C18	Comment
Input Voltage :	100~240 +/- 10% V _{ac}	
Input Frequency :	47~63Hz	
90V _{ac}	N/A	
115V _{ac} :	1.2A max.	
230V _{ac} :	0.6A max.	
Efficiency :	83%	Nominal, Full load
115V _{ac}	50A	Max. value
230V _{ac}	100A	
264V _{ac}	N/A	
Hold up time	10mS MIN.	Full load, nominal line
Efficiency	83%	
Output Power	50W	
Output Current	2.6A	Maximum Value
Range	18.05 to 19.95 V _{dc}	
Load Regulation	+/-5%	
Ripple & Noise Voltage	350 mV	
Over Voltage	27 V _{dc}	Maximum Value
Operating Temperature	0 ~ 40 °C	
Non-operating Temperature	-20 ~ 85 °C	
Max. Operating Altitude	10,000 feet	
Max. Non-operating Altitude	40,000 feet	
Operation	8%~90% RH	
Storage	5%~90% RH	
Leakage current	0.25mA max.	

* Some values don't show because the vendor didn't provide them. For more detail specification, please refer to the following descriptions.

ILAN—Model No. : F1700C18**1-0 Input requirements**

1-1 Input voltage : 100 to 240 +/- 10% V_{ac} , full range °

1-2 Input frequency : 47 to 63Hz °

1-3 Input current :

1. 1.2A max. , at 115V_{ac} , full load °

2. 0.6A max. , at 230V_{ac} , full load °

1-4 Efficiency : 83% min. at full load , (CV mode) , nominal line °

1-5 Power factor : 0.5 min. ref. Full load

1-6 Inrush current:

1. 50A max. at 115 V_{ac} , cold start °

2. 100A max. at 230V_{ac} , cold start °

1-7 Hold up time : 10mS min. at full load , nominal line °

1-8 Configuration : 2-wire input AC line (line , neutral) °

Chapter 2 Power Supply

1-9 Input fuse : The hot line side of the input shall have a fuse ◦

1-10 Line regulation : The maximum voltage change on DC output shall be within tolerance when AC input voltage varies within the range specified in 1-1 ◦

1-11 Input protection device : An adequate internal fuse on the AC input line shall be provided ◦

1-12 Power line noise : The power supply will have an on board AC filter that will meet conducted noise specification of FCC and FTZ ◦

1-13 Hi-pot tests : Primary-secondary 3.0KV_{ac} for 1 minute (leakage current 10mA)

1-14 Insulation resistance : Insulation resistance shall be more than 100Mohm at 500V_{dc} between primary live , neutral live and secondary between primary live neutral live and frame ground (F.G) ◦

2-0 Output requirements

2-1 DC output :

	Tolerance	Output Current	
Output voltage	(Accuracy)	Min.	Max.
+19 V _{dc} (main)	+/- 5%	0	2.6A

2-2 Load regulation :

Voltage	Tolerance	Regulation
+19V _{dc} (main)	+/- 5%	18~20 V _{dc}

2-3 Dynamic load regulation :

+/- 5% excursion for 50%~100% or 100%~50% load change of DC output at any frequency up to 1KHz (duty 50%) ◦

2-4 Ripple & Noise

The power supply shall not exceed the following limits on the indicated voltages for 60Hz or 50 Hz ripple , switching frequency ripple and noise and dynamic load variations measured with a 20MHz bandwidth ◦

A	B
+19 Vdc	350mV

Column A : Out voltage ◦

Column B : 60Hz ripple + switching ripple and noise ◦

©Ripple and noise are measured at the end of output cables which are added a 0.1uF ceramic capacitor and a 10uF electrolytic capacitor ◦

2-5 Over current protection

The power supply shall not be damaged by a over current from the output to return line , protection to be invoked if current exceeds max. rating by about 5% or more ◦ (measured at 110V_{ac} input)

Output Voltage	Lower	Upper
----------------	-------	-------

Chapter 2 Power Supply

+19 to +10.0 V_{dc}

2.6A

2.9A

2-6 Over—Voltage protection : 27V max. ◦ (do not test with external DC source)

2-7 Shutdown voltage protection : 10V max.

2-8 Short-circuit protection

A short circuit place at any output will cause no damage to this adapter ◦

2-9 Open circuit protection

When primary power is supplied with no load on any output level , no damages or hazardous conditions should occur ◦

2-10 Stability

2% max. at constant load with constant input (after 30 minutes of operation)

2-11 Drop-out (power line disturbance)

Output voltages shall remain within the specified regulation range , through the absence of a line input during 1/2 cycle , at full load and nominal line input ◦

2-12 ESD requirements

The adapter shall meet IEC PUB. 801-2 (ESD) LEVEL 4 REQUIREMENTS ◦

2-13 Surge immunity

The adapter shall withstand IEC PUB. 801-5 (SURGE) LEVEL 4 REQUIREMENTS ◦

2-14 Cooling

Cooling shall be neutral convection cooling , the power supply must be capable of operation when mounted either vertically or horizontally according to the mechanical drawing ◦

2-15 Leakage current : 0.25mA maximum ◦

2-16 LED display

Description	Green
Power on	On
Power off	Off

3-0 Environmental requirements

3-1 Temperature

1. Operation : 0 to 40 °C

2. Storage : -20 to 85 °C

3-2 Humidity

1. Operation : 8%~90% RH ◦

2. Storage : 5%~90% RH ◦

3-3 Vibration and shock

No evidence of any mechanical or functional damage after the vibration and shock testing ◦

1.) Shipping vibration

This AC adapter may be vibrated in the three mutually perpendicular axes of 0.5mm displacement peak to peak at 2 to 55 to 2 Hz , 7 minutes per cycle for a duration of 30

minutes °

2.) Shipping shock

This AC adapter in the shipping package may be dropped 8 times from a height of 900mm °

3-4 Altitude

1.) Operation : 10,000 feet °

2.) Storage : 40,000 feet °

3-5 Marking (label)

The power supply will be marked by the vendor with the following information : vendor identification, vendor, datecode, model name input voltage, output current safety approval mark °

4-0 EMI/EMC requirements

The radiated and conducted emissions of this AC adapter comply with the requirements of the FCC part 15 , Class B & EN 55022 °

5-0 Approval

This AC adapter is designed and approved by following standards :

5-1 Listed by UL, CUL

5-2 Approved by TUV, T-MARK, FIMKO, NEMKO, SEMKO, DEMKO

6-0 Reliability

The power supply shall be designed and produced to have a mean time between failures (MTBF) of 30,000 operating hours at 90% confidence-level while operating under the following conditions :

Test condition : Input vol. 220V_{ac} and 40 pcs of units for 30 days burn-in at full load and 40°C ambient without failure °

7-0 Mechanical features

7-1 Mounting connector : 90 degree , cable 1200 +/- 30mm °

7-2 Weight

Power assembly : 250 gram °

7-3 Dimension : 107 (L) * 60.5 (W) * 30 (H) mm °

DMA channel:

DMA Channel No.	Function
Channel 0	ECP/Sound system/Fast IR
Channel 1	Sound system/ECP/Fast IR
Channel 2	Floppy Disk
Channel 3	Sound system/ECP/Fast IR
Channel 4	[Cascade]
Channel 5	Sound system
Channel 6	Available
Channel 7	Available

Programmable Timer/Counters:

Channel No.	Function
Channel 0	Supports system timer
Channel 1	Supports refresh cycles
Channel 2	Supports the Digital speaker



Chapter 4 Interrupt

Interrupt	Function
IRQ 0	System Timer
IRQ 1	Keyboard
IRQ 2	[Cascade]
IRQ 3	COM2 / SIR / FIR
IRQ 4	COM1
IRQ 5	Audio / Parallel Printer Port 2
IRQ 6	Floppy Disk
IRQ 7	Parallel Printer Port 1 / Audio
IRQ 8	Clock / Calendar
IRQ 9	Available
IRQ10	CardBus(0,1) / USB
IRQ11	Available
IRQ12	Touch Pad or External Mouse
IRQ13	Coprocessor
IRQ14	Fixed Disk Controller
IRQ15	CD-ROM Drive

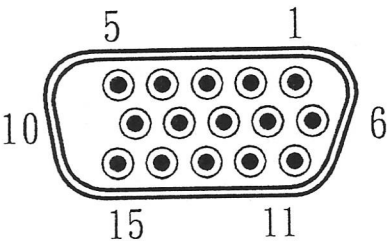


000000H	640K Base memory
0A0000H	128KB reserved for graphics display area & 40KB VGA BIOS
0CA000H	Reserved
0D0000H	Reserved
0E0000H	PMU
0F0000H	64KB for system BIOS
100000H	Extend memory
9000000H	

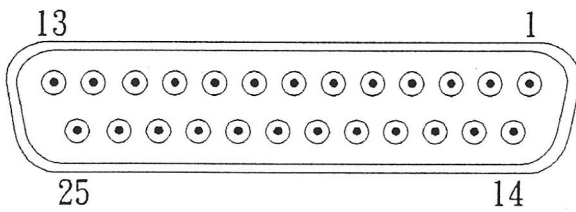
Chapter 6 I/O Address Mapping

Hexadecimal Range	Devices	Usage
000-01F	DMA controller 1	System
020-03F	Interrupt controller 1	System
040-05F	Timer	System
060,064	Keyboard I/O	System
062,066	Embedded controller	System
070-07F	Real time clock, NMI mask	System
080-09F	DMA page register	System
0A0-0BF	Interrupt controller 2	System
0C0-0DF	DMA Controller 2	System
0F0	Clear math coprocessor busy	System
0F1	Reset math coprocessor	System
0F8-0FF	Math coprocessor	System
110,114	Micro Processor	UP
170-177, 376	Secondary IDE Controller	I/O
1F0-1F7,3F6	Primary IDE Channel	I/O
200-207	Game port	I/O
220-22F/280-28F	Sound Blaster 8/16	I/O
278-27F	Parallel Printer Port 2	I/O
2F8-2FF	Serial port2	I/O
300-31F	Prototype card	I/O
360-36F	Reserved	
378-37F	Parallel printer port 1	I/O
388-397	ADLIB Synthesizer	I/O
398-399	NS97338 IO controller	
3A0-3AF	Bisynchronous 1	I/O
3B0-3BF	Mono display printer adapter	I/O
3C0-3DF	Color/graphic monitor adapter	I/O
3E0-3EF	Legacy PCMCIA controller	I/O
3F8-3FF	Serial port 1	I/O
800-807	ESS1879 Sound controller	I/O

The Pin Assignment of Video Port

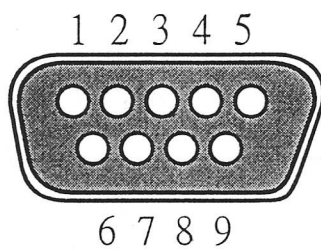


Pin	Signal	Pin	Signal
1	Red	9	V _{cc}
2	Green	10	Ground
3	Blue	11	MS0#
4	MS2#	12	DDC2BD
5	Ground	13	Horizontal Sync
6	Ground	14	Vertical Sync
7	Ground	15	DDC2BC
8	Ground		



The Pin Assignment of Parallel Port

Pin	Signal	Pin	Signal
1	-STROBE	14	- AUTO FEED
2	D0	15	- ERROR
3	D1	16	- INIT
4	D2	17	- SLCT IN
5	D3	18	GND
6	D4	19	GND
7	D5	20	GND
8	D6	21	GND
9	D7	22	GND
10	- ACK	23	GND
11	BUSY	24	- EXT FDD
12	PE	25	GND
13	SLCT		

The Pin Assignment of Serial Port

Pin	Signal	Pin	Signal
1	Carrier Detect	6	Data Set Ready
2	Receive Data	7	Request to Send
3	Transmit Data	8	Clear to Send
4	Data Terminal Ready	9	Ring Indicate
5	Signal Ground		

The Pin Assignment of Docking Port(1)

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	DCLK	42	AD29	83	PGNT #2	124	PD7	165	VAD
2	AD1	43	AD31	84	SERR #	125	PD6	166	VAD
3	AD0	44	RED	85	INT #C	126	SOUT0	167	NC
4	AD3	45	DDC2BD	86	PERR #	127	DCD0	168	NC
5	AD2	46	GREEN	87	GND	128	CTS0	169	GND
6	AD5	47	DDC2BC	88	GND	129	DSR0	170	GND
7	AD4	48	BLUE	89	LPTSLCT	130	DTR0	171	GND
8	AD7	49	MS#	90	LPTSTB #	131	SIN0	172	DKGND #1
9	AD6	50	EHSYNC	91	LPTBUSY	132	RI0	173	CRMA
10	AD9	51	GND	92	LPTPE	133	RTS0	174	GND
11	AD8	52	EVSYN	93	LPTINIT #	134	735DIS#	175	LUMA
12	AD11	53	GND	94	LPTACK #	135	GND	176	+12V
13	AD10	54	NC	95	LPTAFD #	136	GND	177	DSR1 #
14	AD13	55	DKGND#2	96	LPTSLCTIN #	137	GND	178	+12V
15	AD12	56	INT #D	97	EXKBDATA	138	GND	179	DCD1 #
16	AD15	57	DPCMRI #	98	LPERROR #	139	WDATA #	180	+12V
17	AD14	58	DPCMSPK	99	EXKBCLK	140	WGATE #	181	RI1 #
18	AD16	59	SUS #B	100	MDATA	141	DRV 1#	182	+12V
19	GND	60	PWRBTN #	101	GND	142	MTR 1#	183	BRI 1
20	AD17	61	CLKRUN #	102	MCLK	143	DSKCHG #	184	NC
21	AD18	62	SERIRQ	103	PCIRSTNS #	144	RDATA#	185	VCC5
22	AD19	63	DUSBP 1+	104	EXTIR	145	STEP #	186	VCC5
23	AD20	64	DUSBP 1-	105	SWC	146	WP #	187	VCC5
24	AD21	65	GND	106	SWA	147	FDIR #	188	VCC5
25	AD22	66	OC #1	107	JDC	148	TRK0 #	189	VCC5
26	SAGND	67	DMIC	108	JDA	149	HDSEL #	190	VCC5
27	SAGND	68	GND	109	JDD	150	INDEX #	191	VCC5
28	LINE-R	69	C/BE#0	110	MSOUT	151	DENSEL	192	VCC5
29	LINE-L	70	C/BE#2	111	SWD	152	EXTDC #	193	GND
30	SAGND	71	C/BE#1	112	JDB	153	DTR1 #	194	NC
31	SAGND	72	C/BE#3	113	MS692	154	CTS1 #	195	VAD
32	VROR	73	DEVSEL #	114	SWB	155	RXD1	196	VAD
33	VROL	74	FRAME #	115	EXTPOK	156	DKSCI #	197	VAD
34	SAGND	75	TRDY #	116	ENEXTDC	157	TXD1	198	VAD
35	AD24	76	IRDY #	117	COMPOSITE	158	DPCM-LED #	199	VAD
36	AD23	77	STOP #	118	PD1	159	RTS1 #	200	VAD
37	AD26	78	PAR	119	PD0	160	DISISPK #	201	NC
38	AD25	79	PLOCK#	120	PD3	161	NC	202	NC
39	AD28	80	INTA#	121	PD2	162	NC	203	GND
40	AD27	81	INTB #	122	PD5	163	VAD	204	GND
41	AD30	82	PREQ #2	123	PD4	164	VAD		



Chapter 8 INT Function

The following lists the available interrupt services made through the system BIOS. For detailed information about each function, refer to any one of the many books on interrupts.

INT	Type	Function
02	Logical	Non-maskable Interrupt
05h	Software	Print Screen
08h	Hardware	System Timer
09h	Hardware	Keyboard
0Ah	Hardware	Slave PIC Redirect
0Eh	Hardware	Diskette
10h	Software	Video

AH Value	Function
00h	Set video mode
01h	Set cursor type
02h	Set cursor position
03h	Read current cursor position
04h	Not supported
05h	Select new video page
06h	Scroll current page up
07h	Scroll current page down
08h	Read character/Attribute to screen
09h	Write character/attribute from screen
0Ah	Write character only to screen
0Bh	Set color palette
0Ch	Write pixel
0Dh	Read pixel
0Eh	Write teletype to active page
0Fh	Return video status
10h-12h	not supported
13h	Write String
14h-ffh	reserved

11h	Software	Equipment List
12h	Software	Memory Size
13h	Software	Diskette Service (Interrupt 40h)

AH Value	Function
00h	Reset diskette system
01h	Read diskette status
02h	Read diskette sectors
03h	Write diskette sectors
04h	Verify diskette sectors
05h	Format diskette track
06h,07h	Reserved
08h	Read drive parameters
09h-14h	reserved
15h	Read drive type
16h	Detect media change
17h	Set diskette type

Chapter 8 INT Function

		18h	Set media type for format
		19h-FFh reserved	
13h	Software	Hard disk services	
		AH Value	Function
		00h	Reset disk system
		01h	Read disk status
		02h	Read disk sectors
		03h	Write disk sectors
		04h	Verify disk sectors
		05h	Format disk cylinder
		06h,07h	Reserved
		08h	Read drive parameters
		09h	Initialize drive parameters
		0Ah	Read long disk sectors
		0Bh	write long disk sectors
		0Ch	Seek to cylinder
		0Dh	Alternate reset fixed disk
		0Eh	Diagnostics 1, read test buffer
		0Fh	Diagnostics 2, write test buffer
		10h	Test for drive ready
		11h	Recalibrate drive
		12h-14h reserved	
		15h	Read disk type
		16h-18h reserved	
		19h, 1Ah	Not supported
		1Bh-FFh	Reserved
14h	Software	Serial Communication	
		AH Value	Function
		00h	Initialize serial communication port
		01h	Send character
		02h	Receive character
		03h	Read serial port status
		04h-FFh reserved	
15h	Software	System Services	
		AH Value	Function
		00h-4Eh reserved	
		4Fh	Keyboard intercept
		50h-7Fh reserved	
		80h	Device open
		81h	Device close
		82h	Program termination
		83h	Set event wait interval
		84h	Joystick support
		85h	System request key
		86h	Wait
		87h	Move block
		88h	Read extended memory size
		89h	Switch processor to protected mode
		8Ah-8Fh	Reserved
		90h	Device busy loop

		91h	Interrupt complete
		92h-BFh	Reserved
		C0h	Return system configuration parameters
		C1h	Return extended BIOS data area segment address
		C2h	Pointing device interface
		C3h-FFh	Reserved
16h	Software	Keyboard	
		AH Value	Function
		00h	Read keyboard input
		01h	Return keyboard status
		02h	Return shift flag status
		03h	Set typematic rate and delay
		04h	Reserved
		05h	Store key data
		06h-0Fh reserved	
		10h	Read extended key input
		11h	Return extended keyboard status
		12h	Return extended shift flags status
		13h-FFh reserved	
17h	Software	Parallel Printer	
		AH Value	Function
		00h	Print character
		01h	Initialize printer
		02h	Read printer status
		03h-FFh reserved	
18h	Software	Load ROM BASIC	
19h	Software	Bootstrap Loader	
1Ah	Software	System Timer and Real-Time Clock	
		AH Value	Function
		00h	Read system timer time counter
		01h	Set system timer time counter
		02h	Read real time clock time
		03h	Set real time clock time
		04h	Read real time clock date
		05h	Set real time clock date
		06h	Reserved
		07h	Set real time clock alarm
		08h	Read day of week from real time clock(SystemSoft only)
		09h	Write day of week to real time clock(SystemSoft only)
		0Ah-FFh	Reserved
1Bh	Software	Keyboard Break	
1Ch	User	User timer tick	
1Dh	BIOS table	Video parameters table	
1Eh	BIOS table	Diskette parameters table	
1Fh	User	Video graphics characters	
40h	Software	diskette BIOS receptor	

Chapter 8 INT Function

41h	BIOS table	Fixed disk parameter table
46h	BIOS table	Fixed disk parameter table
70h	Hardware	Real time clock
71h	Hardware	Redirect cascade
74h	Hardware	Pointing device(Mouse)
76h	Hardware	fixed disk

Any 80386 and/or coprocessor exception interrupts normally handled by the operating system are vectored by default to the BIOS at system power-on.



PhoenixBIOS Setup Utility

Main Advanced Security Power Boot Exit

		Item Specific Help
System Time:	[14:06:00]	<Tab>, <Shift-Tab>, or <Enter> selects field.
System Date:	[04/21/1998]	
Diskette A:	[1.44/1.25 Mb ½3 “]	
▶ Primary Master	[1350 MB]	
▶ Secondary Master	[CD-ROM]	
Video Display Device:	[LCD & CRT]	
Numlock:	[OFF]	
Memory Cache:	[Enabled]	
System Memory:	640 KB	
Extended Memory:	15 MB	

F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
 ESC Exit ↔ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit

PhoenixBIOS Setup Utility

Main

Primary Master (1350MB)	Item Specific Help
Type: [Auto] Cylinders: [2616] Heads: [16] Sectors: [63] Maximum Capacity: 1350MB Multi-Sector Transfer: [16 Sectors] LBA Mode Control: [Enabled] 32 Bit I/O: [Disabled] Transfer Mode: [Fast PIO 4] Ultra DMA Mode: [Disabled]	User = you enter parameters of hard-disk drive installed at this connection. Auto = autotypes hard-disk drive installed here. 1-39 = you select pre-determined type of hard-disk drive installed here. CD-ROM = a CD-ROM drive is installed here. ATAPI Removable = removable disk drive is installed here.

F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
 ESC Exit ←→ Select Menu Enter Select ► Sub-Menu F10 Save and Exit

PhoenixBIOS Setup Utility

Advanced

Audio Options Menu		Item Specific Help
Sound: Joystick:	[Auto] [Enabled]	Configure the sound device.

F1 Help ↑ ↓ Select Item -/+ Enter Change Values F9 Setup Defaults
ESC Exit ← → Select Menu Enter Select ► Sub-Menu F10 Save and Exit

Main	Advanced	Security	Power	Boot	Exit
------	----------	----------	-------	------	------

Setting items on this menu to incorrect values may cause your system to malfunction.

- | | |
|----------------|-----------|
| Plug & Play OS | [No] |
| PS/2 Mouse: | [Enabled] |

Item Specific Help

Select 'No' if you need the BIOS to configure non-boot devices.

F1	Help	↑ ↓	Select Item	-/+	Change Values	F9	Setup Defaults
ESC	Exit	← →	Select Menu	Enter	Select ► Sub-Menu	F10	Save and Exit

PhoenixBIOS Setup Utility

Advanced

Integrated Peripherals	Item Specific Help
Serial port A: [Enabled] Base I/O address: [3F8 IRQ4] Serial port B: [Enabled] Base I/O address: [2F8 IRQ3] Mode: [FIR] DMA channel: [DMA 1] Parallel port: [Auto] Mode: [Bi-directional] Floppy disk controller: [Enabled]	Configure serial port A using options: [Disabled] No configuration [Enabled] User configuration [Auto] BIOS or OS chooses configuration

PhoenixBIOS Setup Utility

Main		Advanced		Security		Power		Boot		Exit	
										Item Specific Help	
Set Supervisor Password										Supervisor Password controls access to the setup utility.	
Set User Password											
Password on boot:											
Diskette access:											

F1	Help	↑↓	Select Item	-/+	Change Values	F9	Setup Defaults
ESC	Exit	←→	Select Menu	Enter	Select ► Sub-Menu	F10	Save and Exit

PhoenixBIOS Setup Utility

Main	Advanced	Security	Power	Boot	Exit
Power Savings: [Disabled] Standby Timeout: [Off] Suspend Mode: [Suspend] Auto Suspend Timeout: [Off] Hard Disk Timeout: [Disabled] Video Timeout: [Disabled] Low Battery Suspend [Off] Resume On Modem Ring: [Off] Resume On time:: [Off] Resume Time: [00:00:00]				Item Specific Help Select Power Management Mode. Choosing modes changes system power management settings. Maximum Power Savings conserves the greatest amount of system power while Maximum Performance conserves power but allows greatest system performance. To alter these settings, choose Customize. To turn off power management, choose Disable.	

F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
 ESC Exit ↔ Select Menu Enter Select ► Sub-Menu F10 Save and Exit

PhoenixBIOS Setup Utility

Main	Advanced	Security	Power	Boot	Exit
1. [Diskette Drive] 2. [Hard Drive] 3. [ATAPI CD-ROM Drive]					Item Specific Help To select the boot device, use the up and down arrows, then press <+> to move the device up the list, or <-> to move it down the list. Press <Esc> to exit this menu

F1 Help ↑↓ Select Item -/+ Enter Change Values F9 Setup Defaults

ESC Exit ←→ Select Menu Select ► Sub-Menu F10 Save and Exit

PhoenixBIOS Setup Utility

Main Advanced Security Power Boot Exit

Exit Saving Changes
Exit Discarding Changes
Load Setup Defaults
Discard Changes
Save Changes

Item Specific Help

Exit System Setup and
save your changes to
CMOS.

F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ↔ Select Menu Enter Select ► Sub-Menu F10 Save and Exit

POST Errors

A. Recoverable POST Error

Whenever a recoverable error occurs during POST, *Phoenix BIOS* displays an error message describing the problem.

Phoenix BIOS also issues a beep code (one long tone followed by two short tones) during POST if the video configuration fails (no card installed or faulty) or if an external ROM module does not properly checksum to zero.

An external ROM module (e.g. VGA) can also issue audible errors, usually consisting of one long tone followed by a series of short tones.

B. Terminal POST Errors

There are several POST routines that issue a POST Terminal Error and shut down the system if they fail. Before shutting down the system, the terminal-error handler issues a beep code signifying the test point error, writes the error to port 80h, attempts to initialize the video, and writes the error in the upper left corner of the screen (using both mono and color adapters).

The routine derives the beep code from the test point error as follows:

1. The 8-bit error code is broken down to four 2-bit groups.
2. Each group is made one-based (1 through 4) by adding 1.
3. Short beeps are generated for the number in each group.

Example:

Testpoint 01Ah = 00 01 10 10 = 1-2-3-3 beeps

If the BIOS detects error 2C, 2E, or 30 (base 512k RAM error), it displays an additional word of information reflecting the bit or address line that failed. For example, if "2C 0002" is displayed, address line I (represented by bit one) has failed. If "2E 1020" is displayed, then data bits 12 and 5 have failed in the upper 16 bits.

BIOS sends the same information to the port-80 LED display (See below). The check point code is followed by a delay, the high order byte, another delay, and then the low order byte of the error. This

C. Test Points and Beep Codes

At the beginning of each POST routine, the BIOS outputs the test point error code to I/O address 80h. Use this code during trouble shooting to establish at what point the system failed and what routine was being performed.

Some motherboards are equipped with a seven-segment LED display that displays the current value of port 80h. For production board which do not contain the LED display, you can purchase a card that performs the same function.

If the BIOS detects a terminal error condition, it halts POST after issuing a terminal error beep code (See above) and attempting to display the error code on upper left corner of the screen and on the port 80h LED display. It attempts repeatedly to write the error to the screen.. This may cause "ash" on some CGA display.

If the system hangs before the BIOS can process the error, the value displayed at the port 80h is the last test performed. In this case, the screen does not display the error code.

The following is a list of the checkpoint codes written at the start of each test and the beep codes issued for terminal errors:

Code	Beeps	POST Routine Description
02		Verify Real Mode
04		Get CPU type
06		Initialize system hardware
08		Initialize chipset registers with initial POST values
09		Set in POST flag
0A		Initialize CPU registers
0C		Initialize cache to initial POST values
0E		Initialize I/O
0F		Initialize the local bus IDE
10		Initialize Power Management
11		Load alternate registers with initial POST values
12		Jump to UserPatch0
14		Initialize keyboard controller
16	2-2-3	BIOS ROM checksum
18		Initialize 8254 timer
1A		8237 DMA controller initialization
1C		Reset Programmable Interrupt Controller
20	3-1-1	Test DRAM refresh
22	3-1-3	Test 8742 Keyboard Controller
24		Set ES segment register to 4GB
28		Autosize DRAM
2A		Clear 512K base RAM
2C	3-4-1	Test 512K base address lines
2E	3-4-3	Test 512K base memory
32		Test CPU bus-clock frequency
34		Test CMOS RAM
35		Initialize other hardware devices
37		Reinitialize the chipset (MB only)
38		Shadow system BIOS ROM
39		Reinitialize the cache (MB only)
3A		Autosize cache
3C		Configure advanced chipset register

3D		Load alternate registers with CMOS values
42		Initialize interrupt vectors
44		Initialize BIOS interrupts
46	2-1-2-3	Check ROM copyright notice
47		Initialize manager for PCI Option ROM
48		Check the equipment specified in the CMOS
49		Initialize PCI bus and devices
4A		Initialize all video adapters in system
4C		Shadow video BIOS ROM
4E		Display copyright notice
50		Display CPU type and speed
51		Initialize EISA slots
52		Test keyboard
54		Set key click if enabled
56		Enable keyboard
58	2-2-3-1	Test for unexpected interrupts
5A		Display prompt press F2 to enter SETUP"
5C		Test RAM between 512K and 640K
60		Test extended memory
62		Test extended memory address lines
64		Jump to UserPatch1
66		Configure advanced cache register
68		Enable external and CPU caches
6A		Display external cache size
6C		Display shadow message
6E		Display non-disposable segments
70		Display error messages
72		Check for configuration errors
74		Test real-time clock
76		Check for keyboard errors
7C		Set up hardware interrupt vectors
7E		Test coprocessor if present
80		Disable onboard I/O ports
82		Detect and install external RS232 ports
84		Detect and install external parallel ports

86		Re-initialize onboard I/O ports
88		Initialize BIOS Data Area
8A		Initialize Extended BIOS Data Area
8C		Initialize floppy controller
90		Initialize hard-disk drives
91		Local-bus IDE timing
92		Jump to UserPatch2
93		Build MPTABLE for multi-processor boards
94		Disable A20 address line
96		Clear huge ES segment register
98		Search for option ROMs
9A		Shadow option ROMs
9C		Setup Power Management
9E		Enable hardware interrupts
A0		Set time for day
A2		Check key lock
A4		Initialize typematic rate
A8		Erase F2 prompt
AA		Scan for F2 key stroke
AC		Enter SETUP
AE		Clear in-POST flag
B0		Check for errors
B2		POST done - prepare to boot operating system
B4		One beep
B6		Check password (optional)
B8		Clear global descriptor table
BC		Clear parity checkers
BE		Clear screen (optional)
BF		Check virus and backup reminders
C0		Try to boot with INT 19
D0		Interrupt handler error
D2		Unknown interrupt error
D4		Pending interrupt error
D6		Initialize option ROM error
D8		Shutdown error

DA		Extended Block Move
DC		Shutdown 10 error
		The following are for boot block in Flash ROM
E2		Initialize the chipset
E3		Initialize refresh counter
E4		Check for Forced Flash
E5		Check HW status of ROM
E6		BIOS ROM is OK
E7		Do a complete RAM test
E8		Do OEM initialization
E9		Initialize interrupt controller
EA		Read in the bootstrap code
EB		Initialize all vectors
EC		Boot the Flash program
ED		Initialize the boot device
EE		Boot code was read OK

D. Phoenix BIOS Messages

nnnn Cache SRAM Passed
 Diskette drive A error
 Diskette drive B error
 Entering SETUP...
 Extended RAM Failed at offset : nnnn *
 Extended RAM Passed
 Failing Bits : nnnn *
 Fixed Disk 0 Failure
 Fixed Disk 1 Failure
 Fixed Disk Controller Failure *
 Incorrect Drive A type - run SETUP
 Incorrect Drive B type - run SETUP
 Invalid NVRAM media type *
 Keyboard controller error *
 Keyboard error
 Keyboard locked - Unlocked key switch
 Monitor type does not match CMOS - Run SETUP
 Operating system not found
 Parity Check 1 nnnn *
 Parity Check 2 nnnn *
 Press <F1> to resume, <F2> to Setup
 Press <F2> to enter SETUP
 Real time clock error *

Shadow Ram Failed at offset : *nnnn* *
nnnn Shadow RAM Passed
System battery is dead - Replace and run SETUP
System BIOS shadowed
System cache error - Cache disabled *
System CMOS checksum bad - run SETUP
System RAM Failed at offset : *nnnn* *
nnnn System RAM Passed
System timer error *
UMB upper limit segment address : *nnnn*
Video BIOS shadowed

If your system displays this message, write down the message and contact your dealer.
If your system fails after you made changes in the Setup menus, you may be able to correct the problem by entering Setup and restoring the original values.
The following is an explanation of each of the messages listed above.

***nnnn* Cache SRAM Passed** Where *nnnn* is the amount of system cache in kilobytes successfully tested.

Diskette drive A error or

Diskette drive B error Drive A: or B: is present but fails the BIOS POST diskette test. Check to see that the drive is defined with proper diskette type in Setup and that the diskette drive is attached correctly.

Entering SETUP... Starting Setup program

Extended RAM Failed at offset: *nnnn* Extended memory not working or not configured properly at offset *nnnn*.

***nnnn* Extended RAM Passed** Where *nnnn* is the amount of RAM in kilobytes successfully tested.

Failing Bits: *nnnn* The hex number *nnnn* is a map of the bits at the RAM address (in System, Extended, or Shadow memory) which failed the memory test. Each 1 (one) in the map indicates a failed bit.

Fixed Disk 0 Failure or

Fixed Disk 1 Failure or

Fixed Disk Controller Failure Fixed disk is not working or not configured properly. Check to see if fixed disk is attached properly. Run Setup be sure the fixed-disk type is correctly identified.

Incorrect Drive A type - run SETUP Type of floppy drive A: not correctly identified in Setup.

Incorrect Drive B type - run SETUP Type of floppy drive B: not correctly identified in Setup.

Invalid NVRAM media type Problem with NVRAM (CMOS) access.

Keyboard controller error The keyboard controller failed test. You may have to replace keyboard or controller.

Keyboard error Keyboard not working.

Keyboard locked -Unlocked key switch Unlocked the system to proceed.

Monitor type does not match CMOS - Run SETUP Monitor type not correctly identified in Setup.

Operating system not found Operating system cannot be located on either drive A: or Drive C:.

Enter Setup and see if fixed disk and drive A: are properly identified.

Parity Check 1 Parity error found in the system bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, It displays ????

Parity Check 2 Parity error found in the I/O bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????

Press <F1> to resume, <F2> to Setup Display after any recoverable error messages. Press <F1> to start the boot process or <F2> to enter Setup and change any settings.

Press <F2> to enter SETUP Optional message displayed during POST. Can be turned off in Setup.

Previous boot incomplete - Default configuration used Previous POST did not complete successfully. POST loads default values and offers to run Setup. If the failure was caused by incorrect values and they are not corrected, the next boot will likely fail. On systems with control of wait states, improper Setup setting can also terminate POST and cause this error on the next boot. Run Setup and verify that wait-state configuration is correct. This error is cleared the next time the system is booted.

Real time clock error Real-time clock fails BIOS test. May require board repair.

Shadow Ram Failed at offset : nnnn Shadow RAM failed at offset nnnn of the 64K block at which the error was detected.

nnnn Shadow RAM Passed Where *nnnn* is the amount of shadow RAM in kilobytes successfully tested.

System battery is dead - Replace and run SETUP The CMOS clock battery indicator shows the battery is dead. Replace the battery and run Setup to reconfigure the system.

System BIOS shadowed - System BIOS copied to shadow RAM.

System cache error - Cache disabled RAM cache failed the BIOS test, BIOS disabled the cache.

System CMOS checksum bad - run SETUP System CMOS has been corrupted or modified incorrectly, perhaps by an application program that changes data stored in CMOS. Run Setup and reconfigure the system either by getting the Default Values and/or making your own selections.

System RAM Failed at offset : *nnnn* System RAM failed at offset *nnnn* of in the 64K block at which the error was detected.

***nnnn* System RAM Passed** Where *nnnn* is the amount of system RAM in kilobytes successfully tested.

System timer error The timer test failed. Requires repair of system board.

UMB upper limit segment address: *nnnn* Displays the address *nnnn* of the upper limit or Upper Memory Blocks, indicating released segments of the BIOS which may be reclaimed by a virtual memory manager.

Video BIOS shadowed Video BIOS successfully copied to shadow RAM.

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Chapter 11 Schematics

G735 M/B

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PAGE 34: POWER ON BOARD 6
PAGE 35: HISTORY

PAGE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
REV	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
DATE	7/29	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	7/16	7/16	7/16	7/16

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REV	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
DATE	5/11	5/11	5/11	7/16	5/11	5/11	7/16	5/11	5/11	5/11	7/29	5/11	7/2	5/11	7/16	7/29

P/N : KR103210

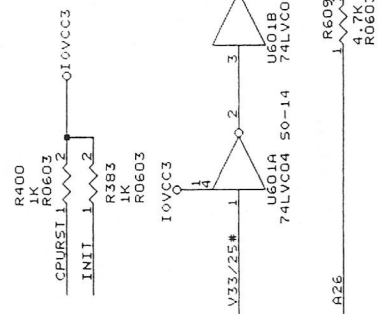
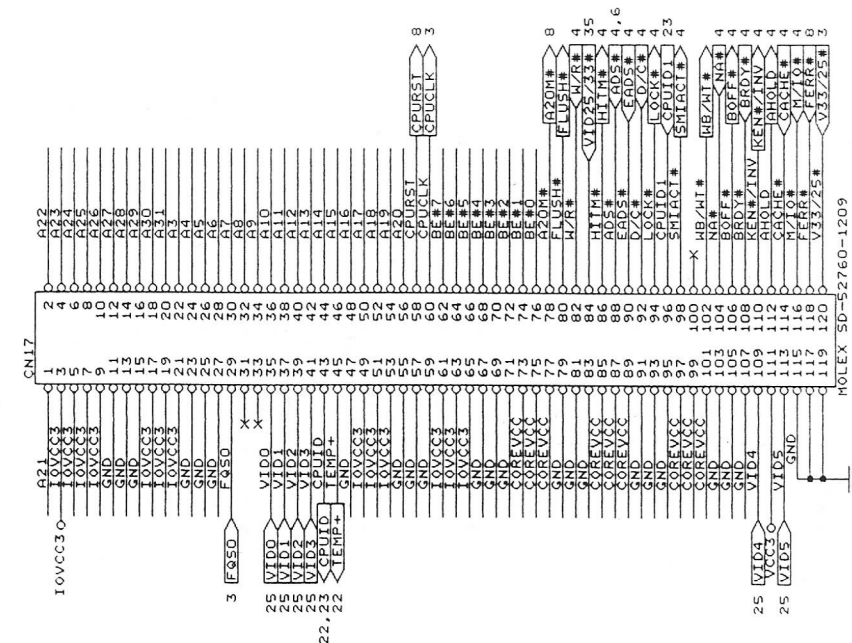
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LINK
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140609.SCH
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140611.SCH
140612.SCH
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REV	B	JUL 29 1998		
Date	July 29, 1998	Sheet	1 of 36	

IOVCC3 1 2 SMIACI# R429
4.7K
R0603



```
A27 STRAP
HI : SYSTEM FREQ. IS 60MHZ
LO : SYSTEM FREQ. IS 66MHZ

A26 STRAP
HI : CPU IOVCC 3.3V
LO : CPU IOVCC 2.5V
```



2,6	$\langle \text{OC}, ., 3 \rangle$	$\langle \text{OC}, ., 3 \rangle$
2,6	$\langle \text{OC}, (0., 2) \rangle$	$\langle \text{OC}, ., 3 \rangle$
2,6	$\langle \text{OC}, ., 63 \rangle$	$\langle \text{OC}, ., 63 \rangle$

HPLC	0.93
AOLC	0.93
ASLC	0.73
FALC	0.13
MALC	0.13

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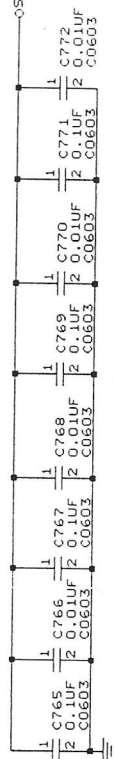
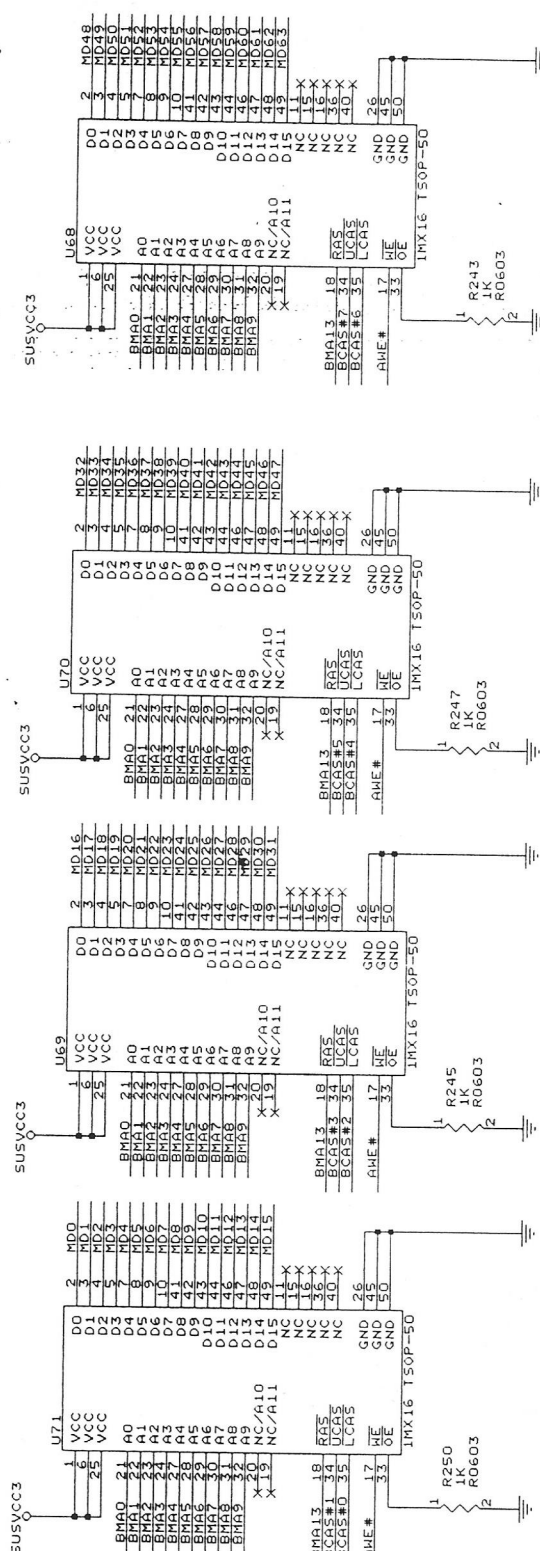
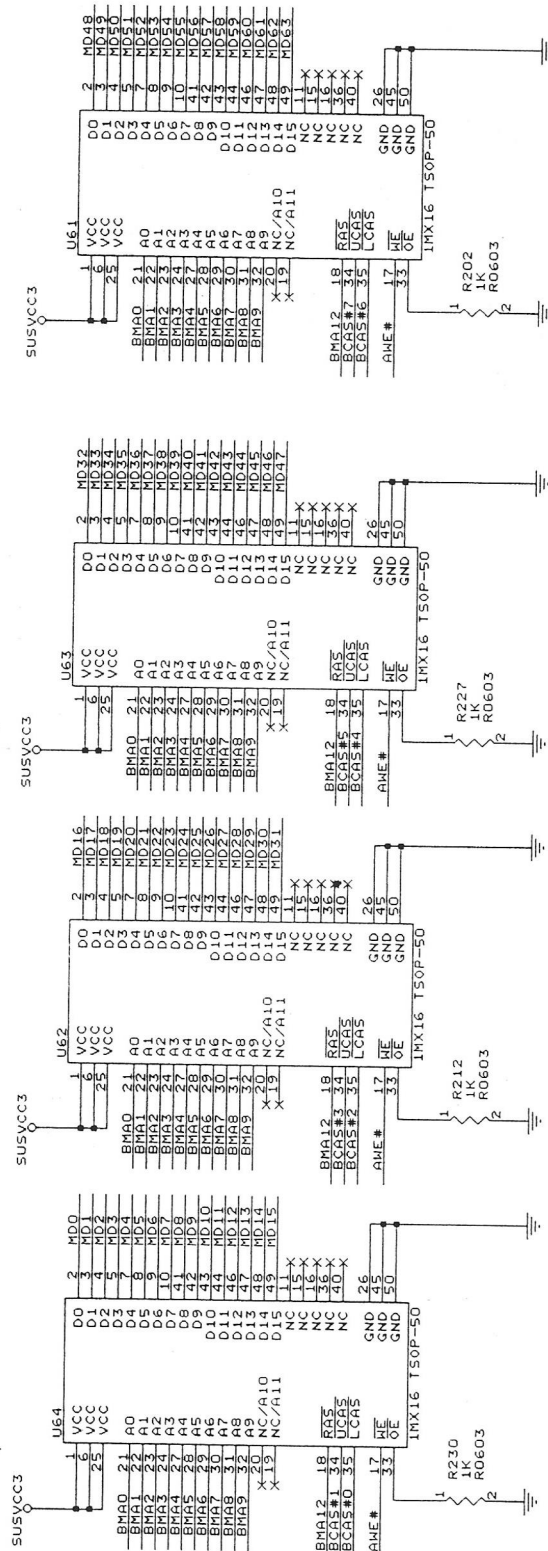
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 99. *...*
 100. *...*

Size	Document Number	INTEL 82439TX
B		C735-104-00



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7.10 BRAS#CO..3] BRAS#CO..3] 7.10
10 AHE# AHE# 10

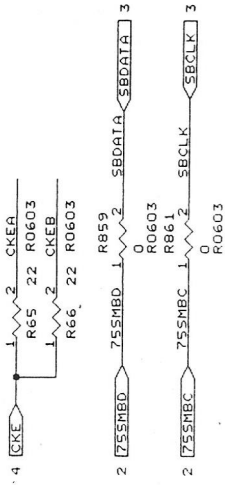
BCAS#CO..7] BCAS#CO..7] 7.10
MDCO..63] MDCO..63] 4.7



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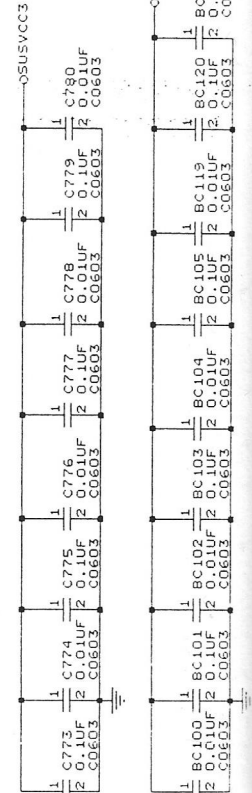
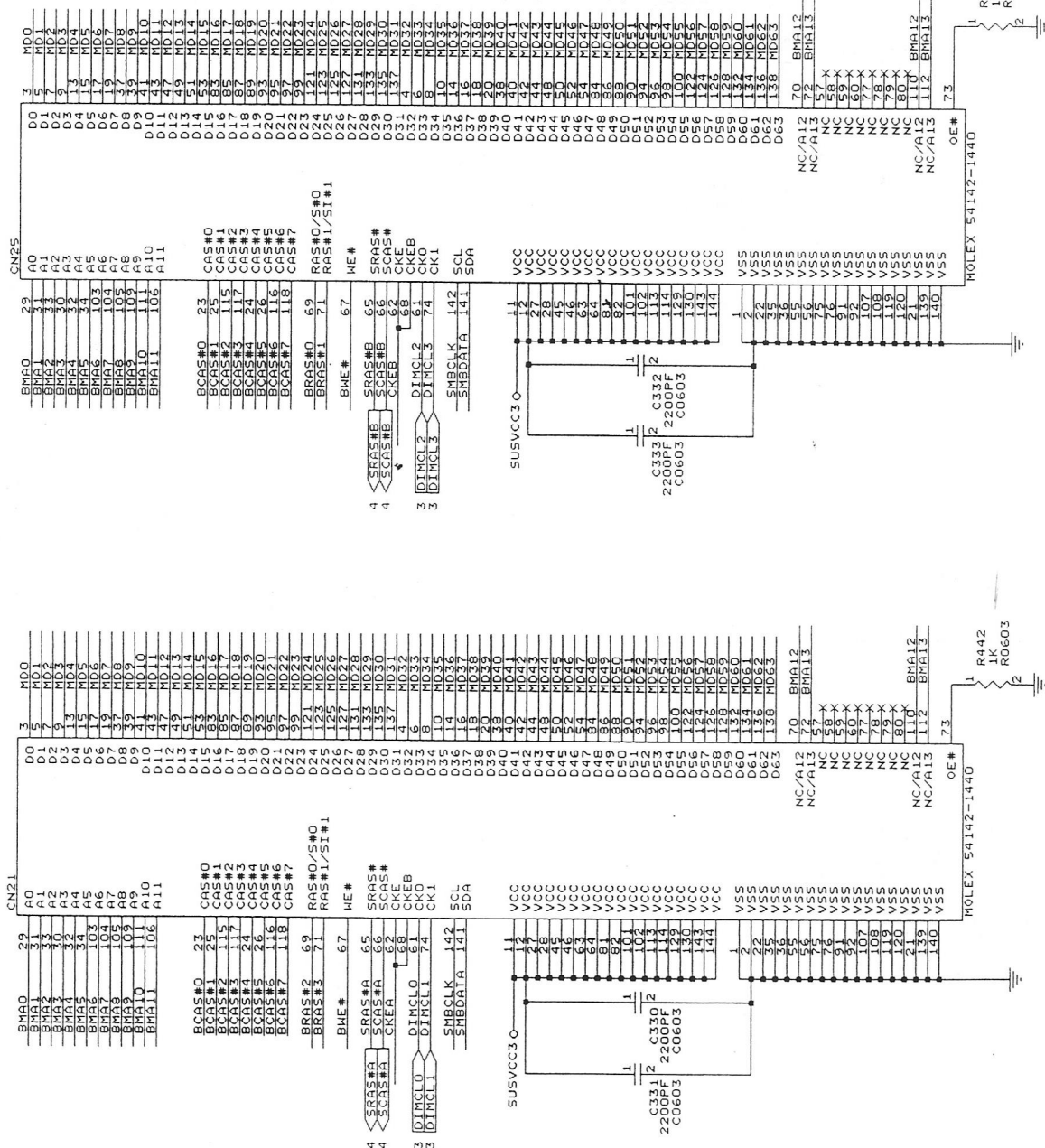
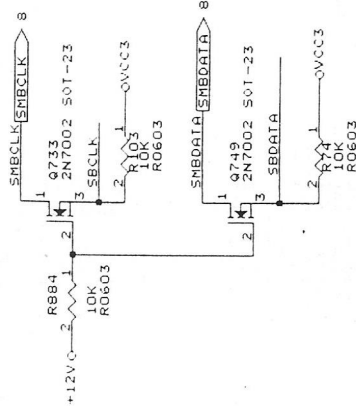
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BRAS#C0..57	BRAS#C0..57	5,10
BWE#	[BWE#]	10
MDCO..637	MDCO..637	4,5



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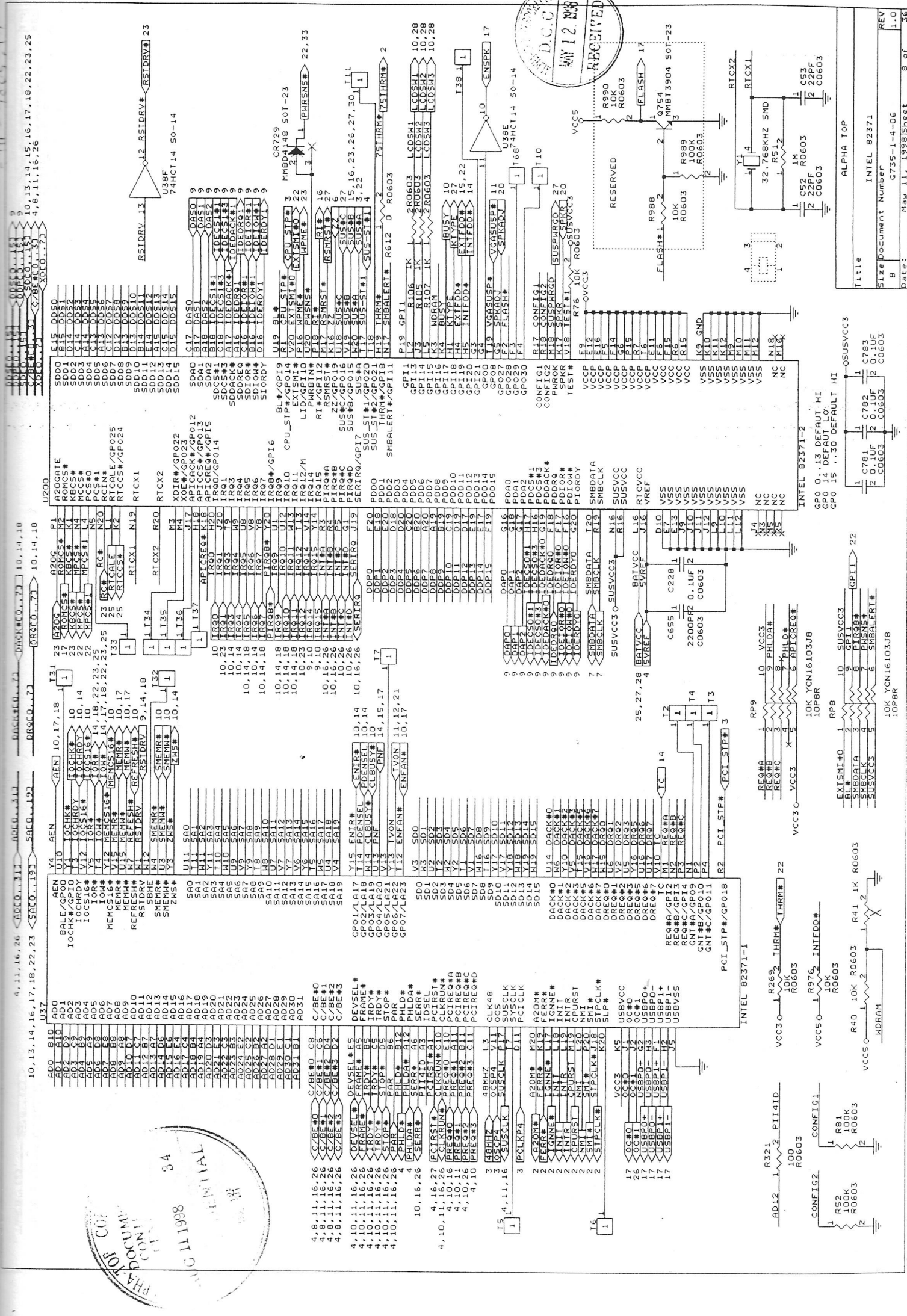
APR 10 1998
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MAY 12 1998
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ALPHA TOP	
14PIN DIMM SOCKET	
Title	
Size	Document Number
B	G735-1-4-06
Date	May 11, 1998 Sheet 2 of 32
REV	1.0



C3

C3



DDPCO...151 DDPFO...151 8
DDSCO...151 DDSCO...151 8

DDPQ 1 8 HDOO
DDP1 2 7 HDO1
DDP2 3 6 HDO2
DDP3 4 5 HDO3
33 TCN16330J4

DDP4 1 8 HDO4
DDP5 2 7 HDO5
DDP6 3 6 HDO6
DDP7 4 5 HDO7
33 TCN16330J4

DDP8 5 4 HDO8
DDP9 6 3 HDO9
DDP10 7 2 HDO10
DDP11 8 1 HDO11
33 TCN16330J4

DDP12 5 4 HDO12
DDP13 6 3 HDO13
DDP14 7 2 HDO14
DDP15 8 1 HDO15
33 TCN16330J4

DDSO 1 8 CDOO
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DDSO2 3 6 CDO2
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33 TCN16330J4

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DDSO5 6 3 CDO5
DDSO6 7 2 CDO6
DDSO7 8 1 CDO7
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DDSO9 2 7 CDO9
DDSO10 3 6 CDO10
DDSO11 4 5 CDO11
33 TCN16330J4

DDSO12 1 8 CDO12
DDSO13 2 7 CDO13
DDSO14 3 6 CDO14
DDSO15 4 5 CDO15
33 TCN16330J4

R468 4.7K R0603

R174 4.7K R0603



ALPHA TOP

HDD & CDROM CONN.

Size Document Number B

Date: May 11, 1998 Sheet 9 of 36

DDO11 1 8 DDO11
DDO12 2 7 DDO12
DDO13 3 6 DDO13
DDO14 4 5 DDO14
33 TCN16330J4

DDO15 1 8 DDO15
DDO16 2 7 DDO16
DDO17 3 6 DDO17
DDO18 4 5 DDO18
33 TCN16330J4

DDO19 1 8 DDO19
DDO20 2 7 DDO20
DDO21 3 6 DDO21
DDO22 4 5 DDO22
33 TCN16330J4

DDO23 1 8 DDO23
DDO24 2 7 DDO24
DDO25 3 6 DDO25
DDO26 4 5 DDO26
33 TCN16330J4

DDO27 1 8 DDO27
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DDO29 3 6 DDO29
DDO30 4 5 DDO30
33 TCN16330J4

DDO31 1 8 DDO31
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DDO33 3 6 DDO33
DDO34 4 5 DDO34
33 TCN16330J4

DDO35 1 8 DDO35
DDO36 2 7 DDO36
DDO37 3 6 DDO37
DDO38 4 5 DDO38
33 TCN16330J4

R0603

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DDO41 3 6 DDO41
DDO42 4 5 DDO42
33 TCN16330J4

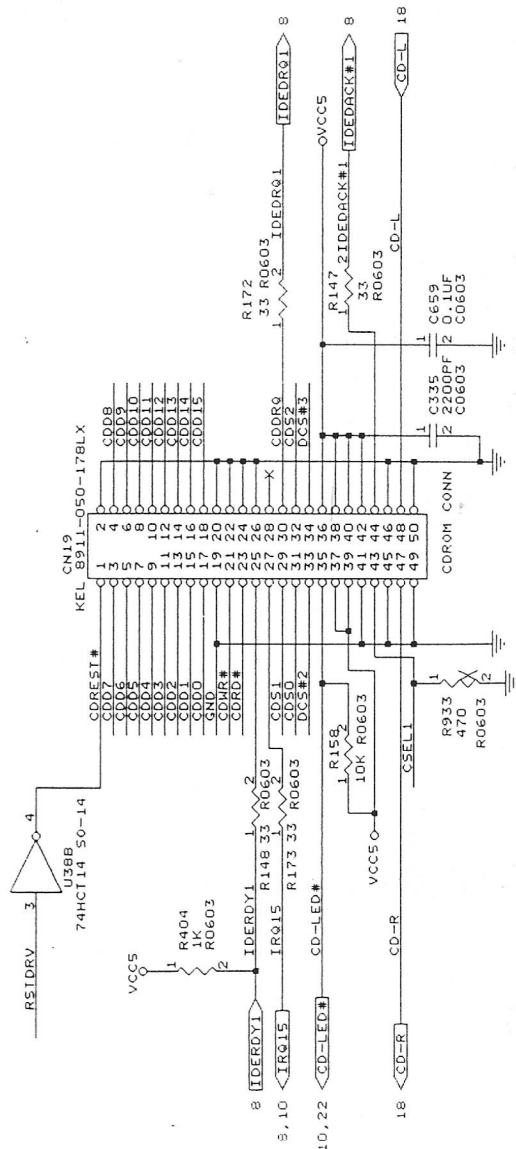
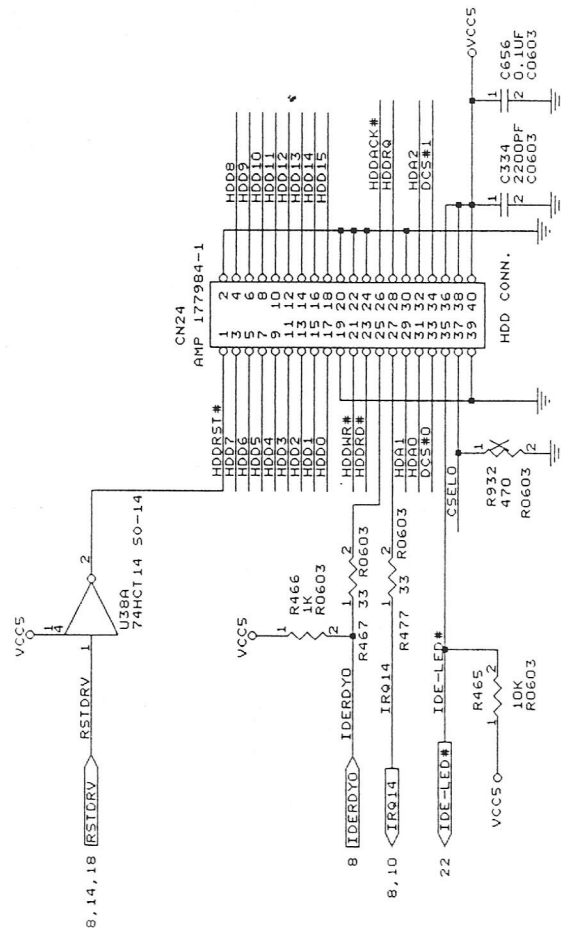
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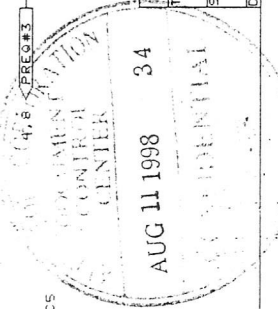
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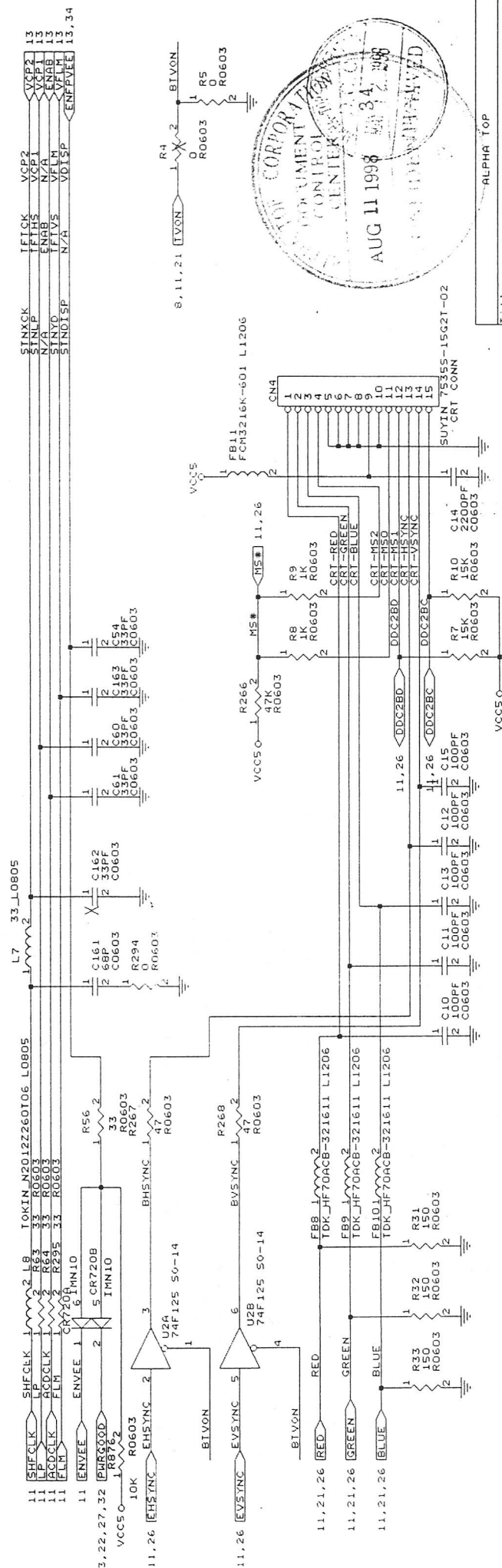
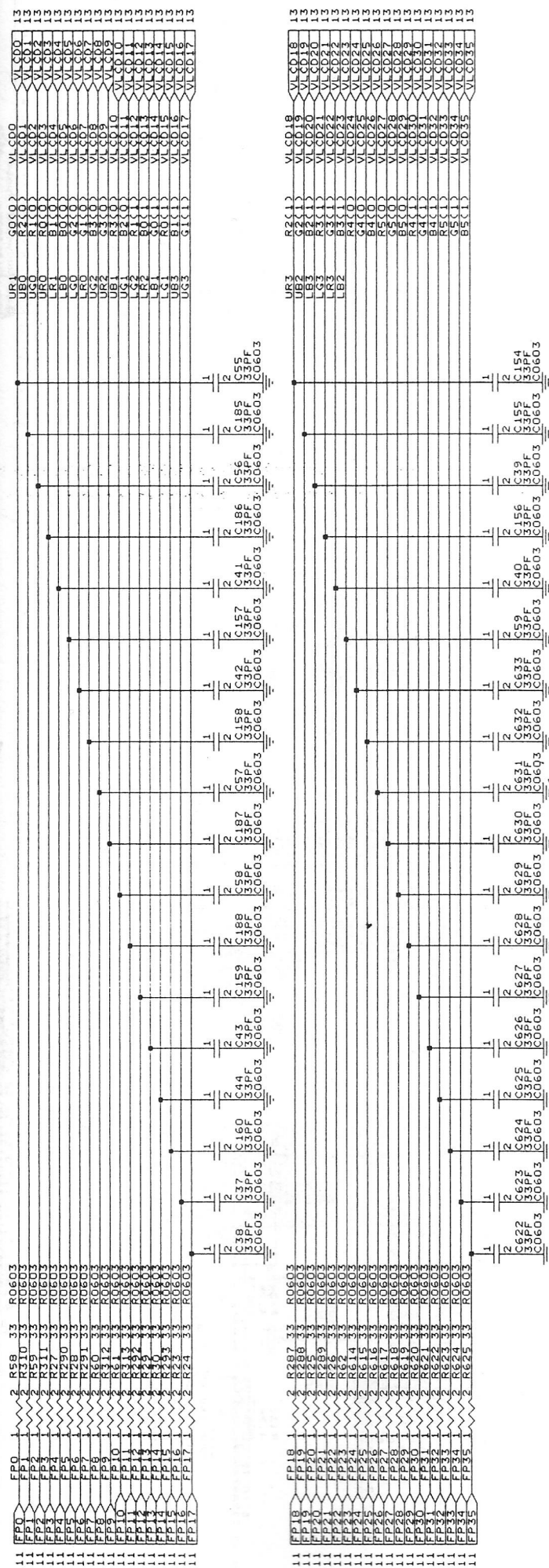
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DDO48 2 7 DDO48
DDO49 3 6 DDO49
DDO50 4 5 DDO50
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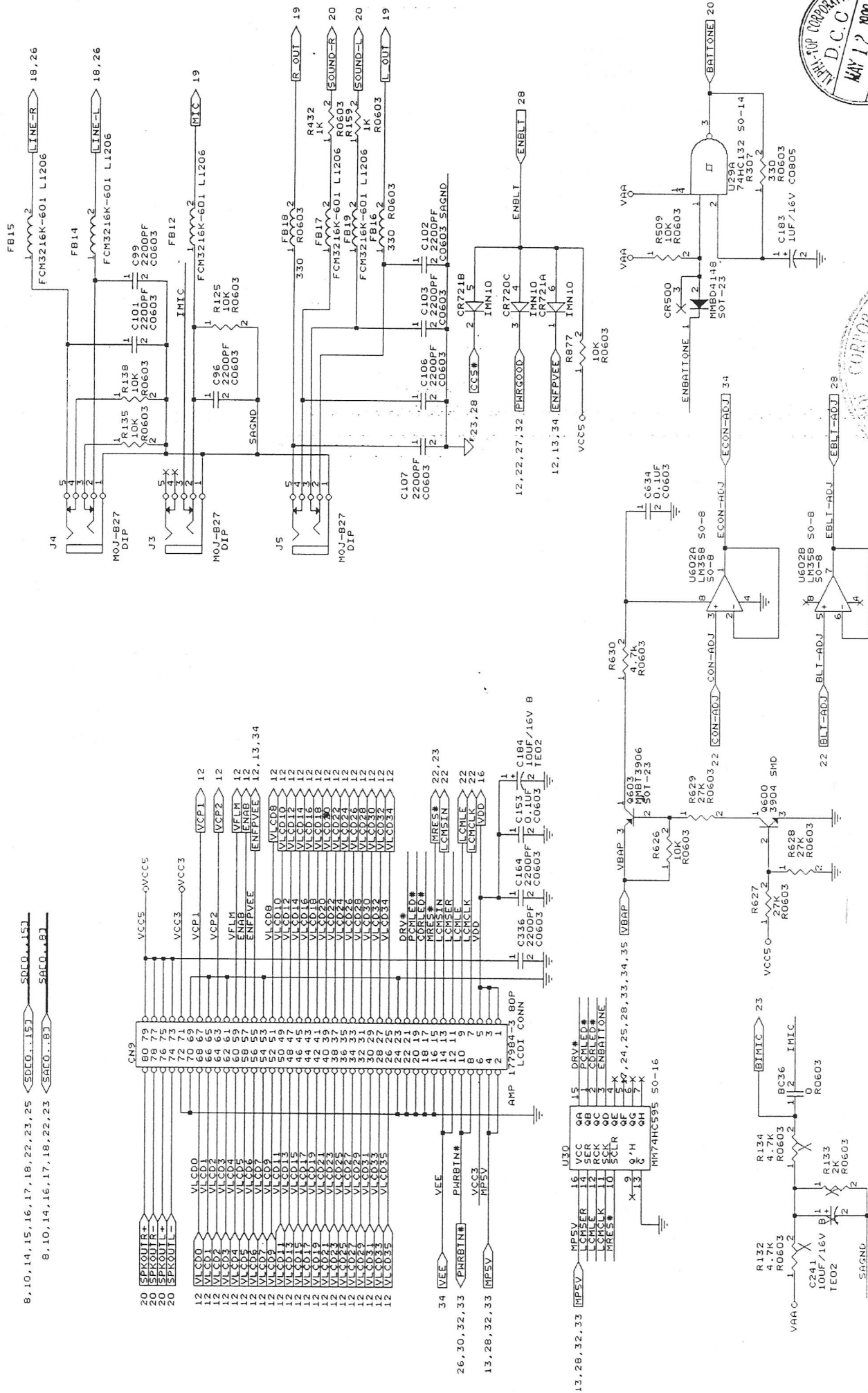
R0603





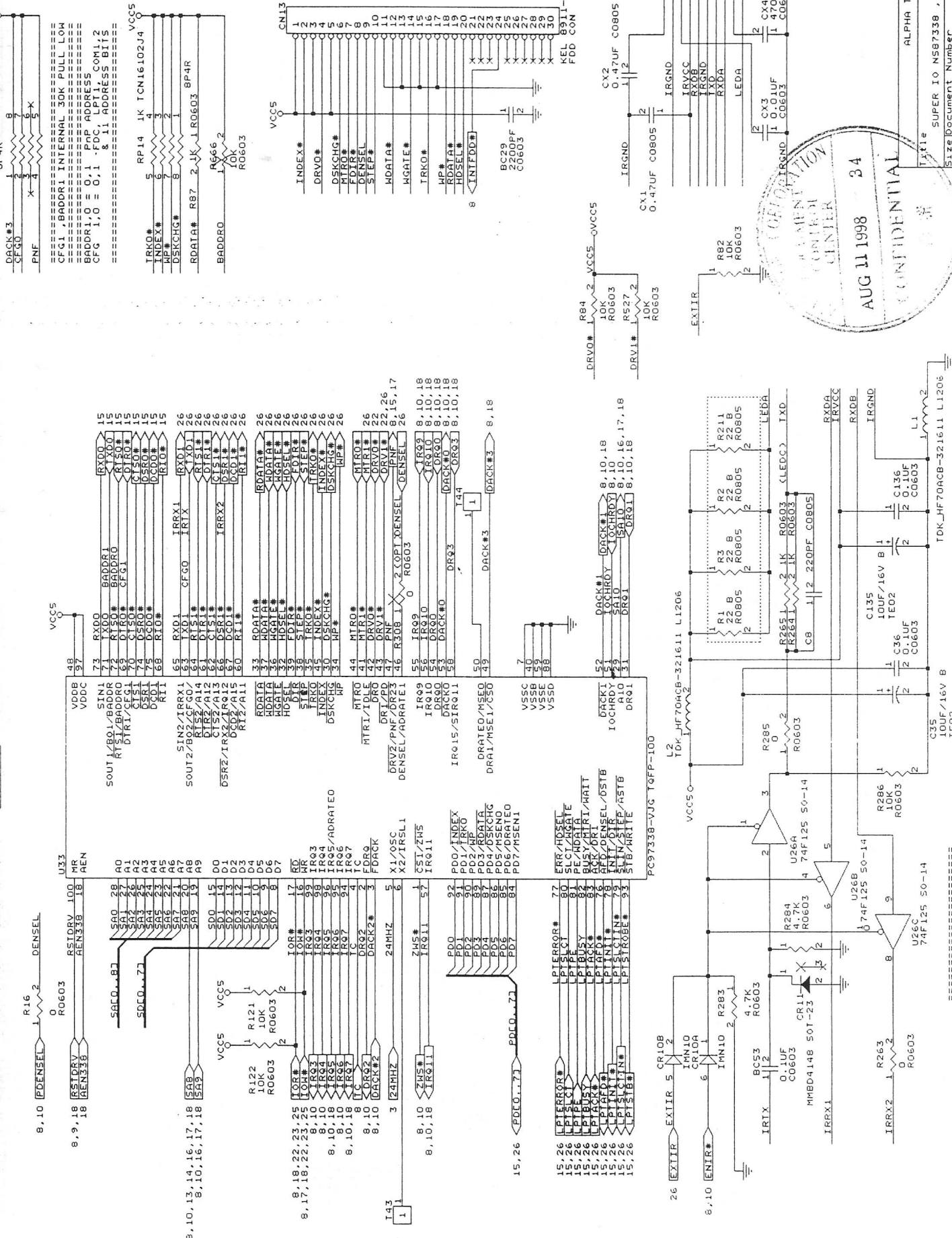



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10K TCN16103J4 VCC5
8P4R Q



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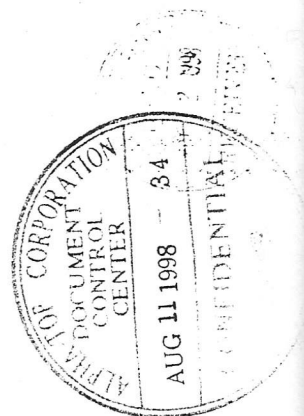
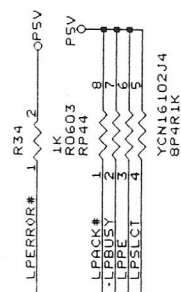
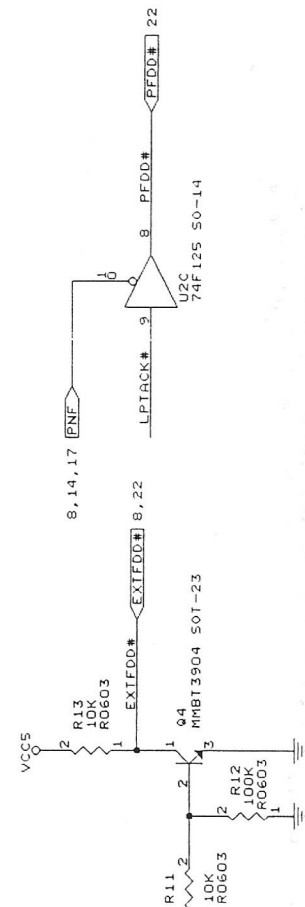
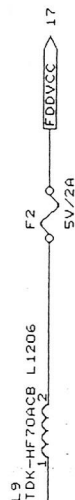
COMMUNICATIONS CENTER

REGNO

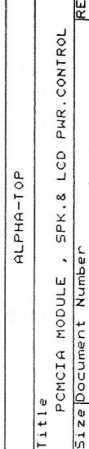
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Size	D

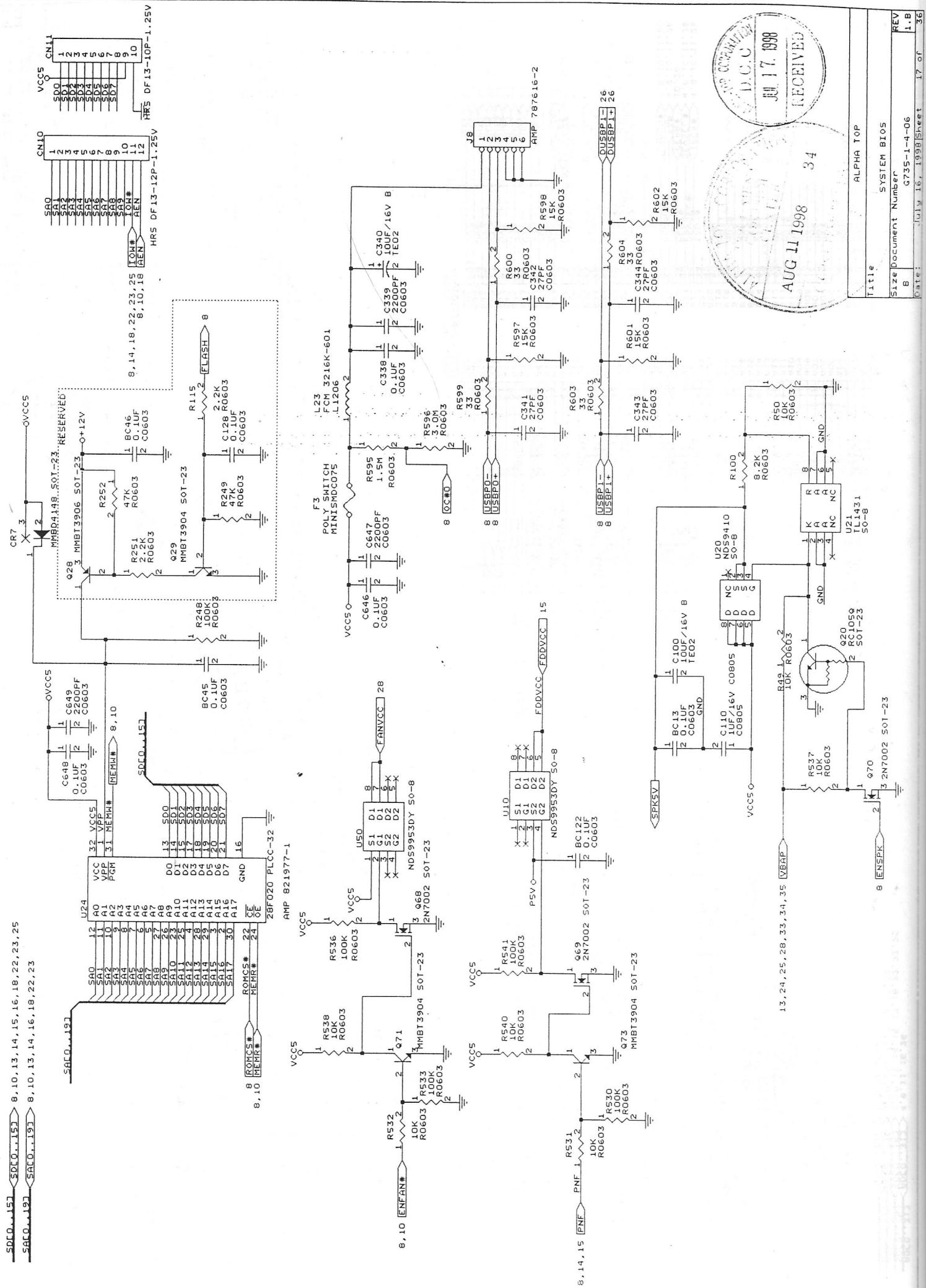
Size	Document Number	REV
B	G735-1-4-06	1.0

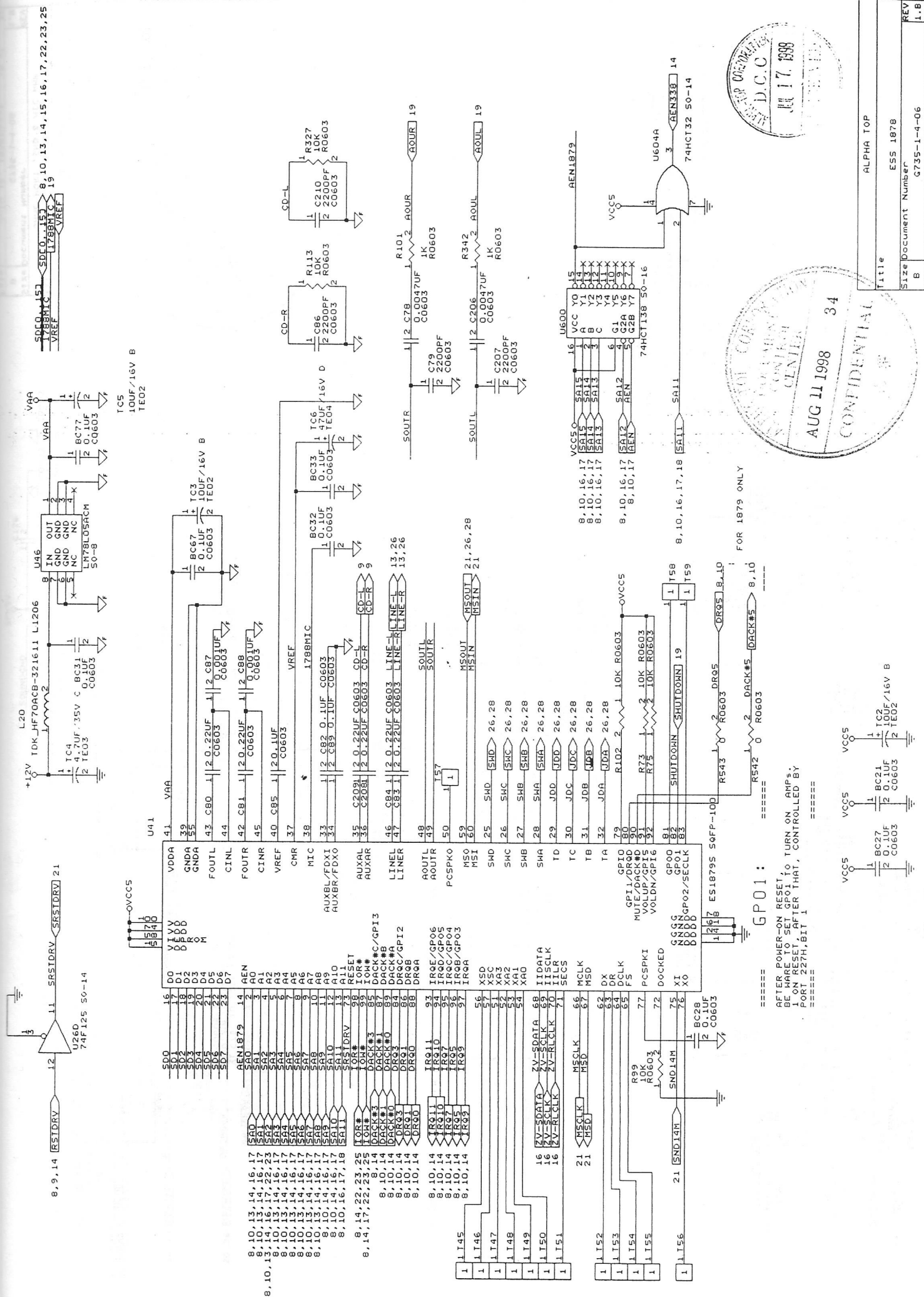
8, 10, 13, 14, 16, 17, 18, 22, 23, 25



Title	
S/P PORT INTERFACE , RGB ENCODER & MODEM CON	
Size	Document Number
B	G735-1-4-06
Date:	May 11, 1998
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FOR 1879 ONLY

GPO1:

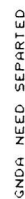
=====

AFTER POWER-ON RESET,
BEWARE TO SET GP01 TO TURN ON AMPS.
1 ON RESET, AFTER THAT, CONTROLLED BY
PORT 227H, BIT 1

=====

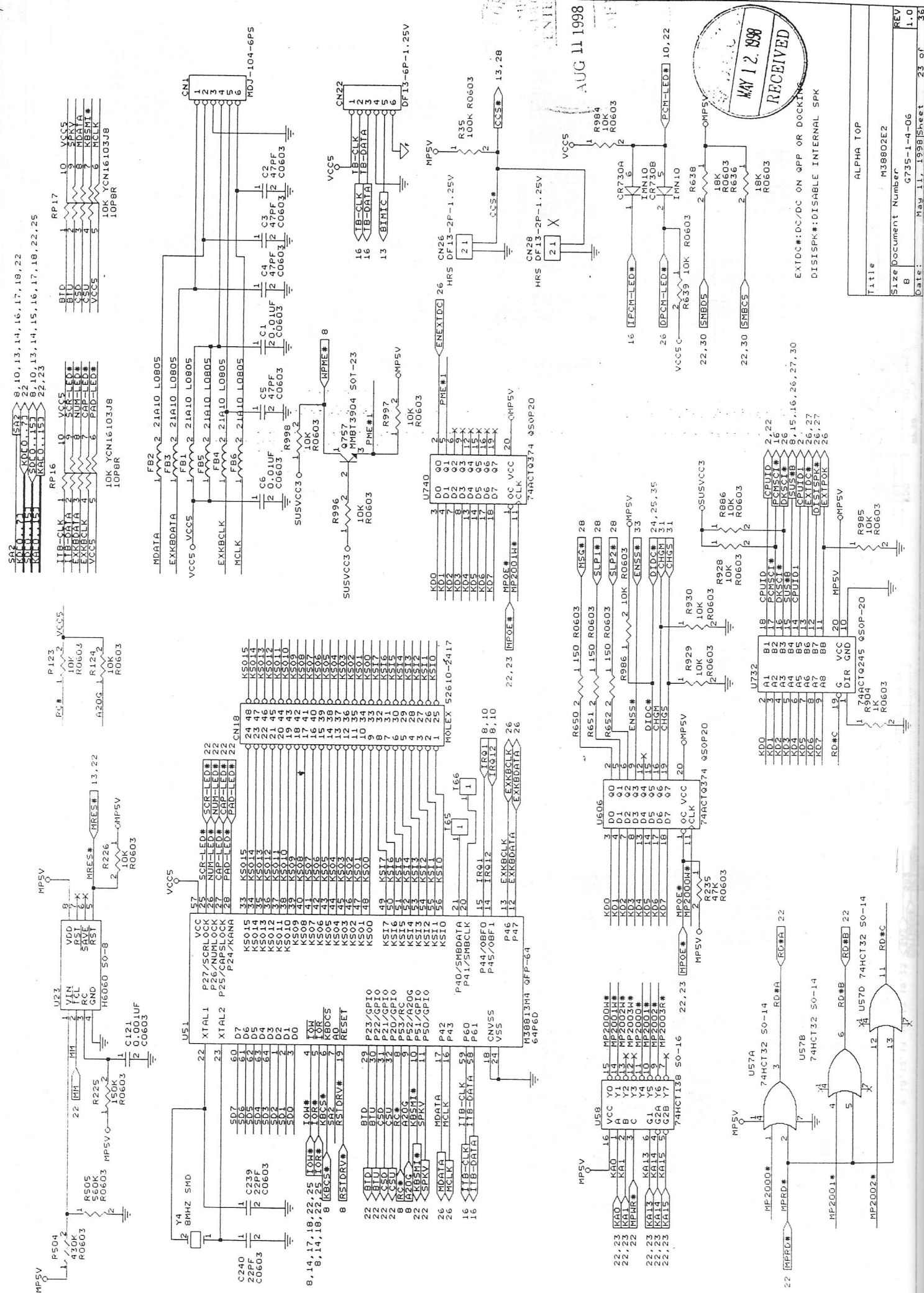
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D.C.C.
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JUN 12 1960
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Title	
WAVE TABLE	
Size	Document Number
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3	1.2
4	1.3
5	1.4
6	1.5
7	1.6
8	1.7
9	1.8
10	1.9
11	2.0
12	2.1
13	2.2
14	2.3
15	2.4
16	2.5
17	2.6
18	2.7
19	2.8
20	2.9
21	3.0
22	3.1
23	3.2
24	3.3
25	3.4
26	3.5
27	3.6
28	3.7
29	3.8
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43	5.2
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50	5.9
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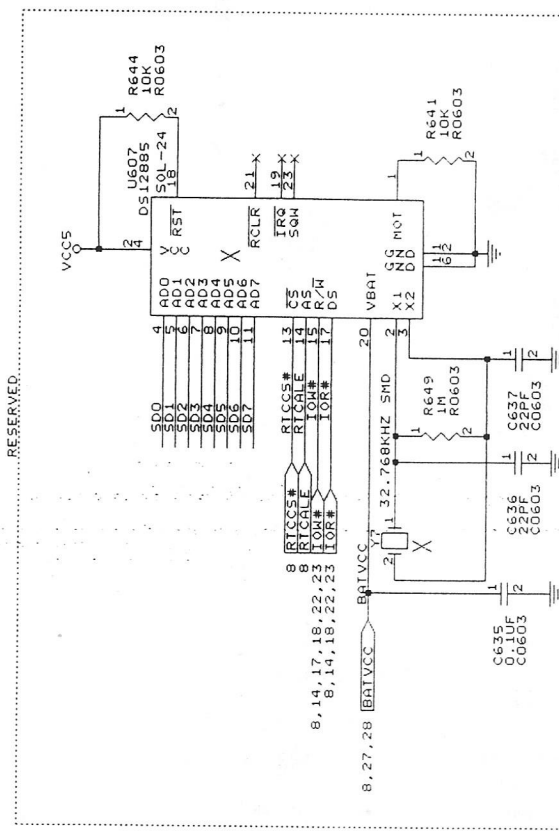
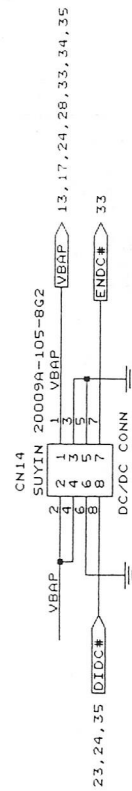
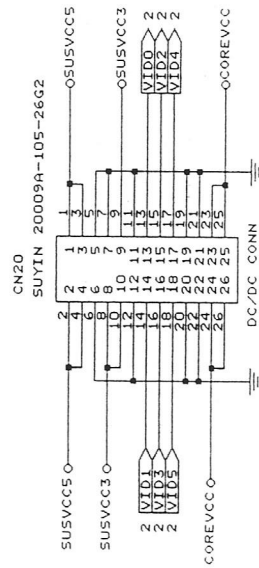
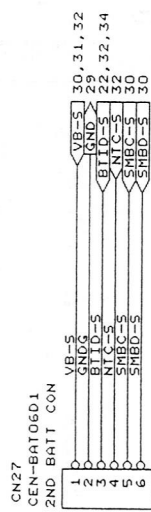
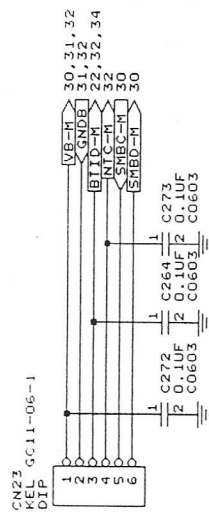
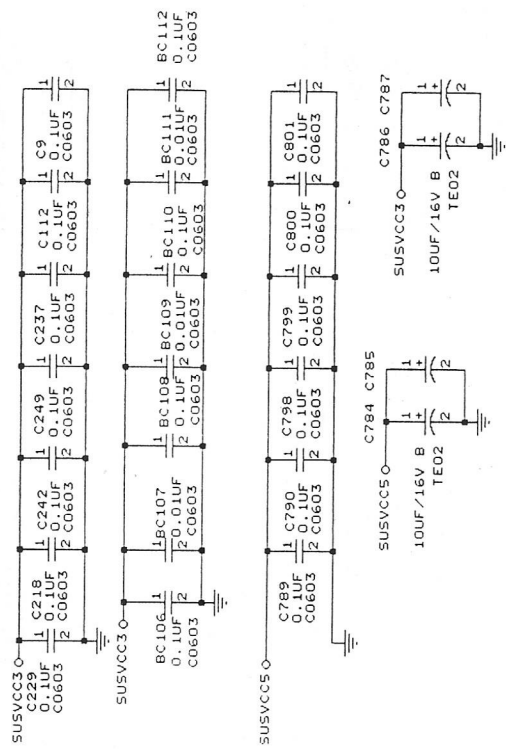


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EXTDC#:DC/DC ON QPP OR DOCKING
DISISPK#:DISABLE INTERNAL SPK

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M38802E2	
Size	Document Number
8	G735-1-4-06
Date:	May 11, 1998
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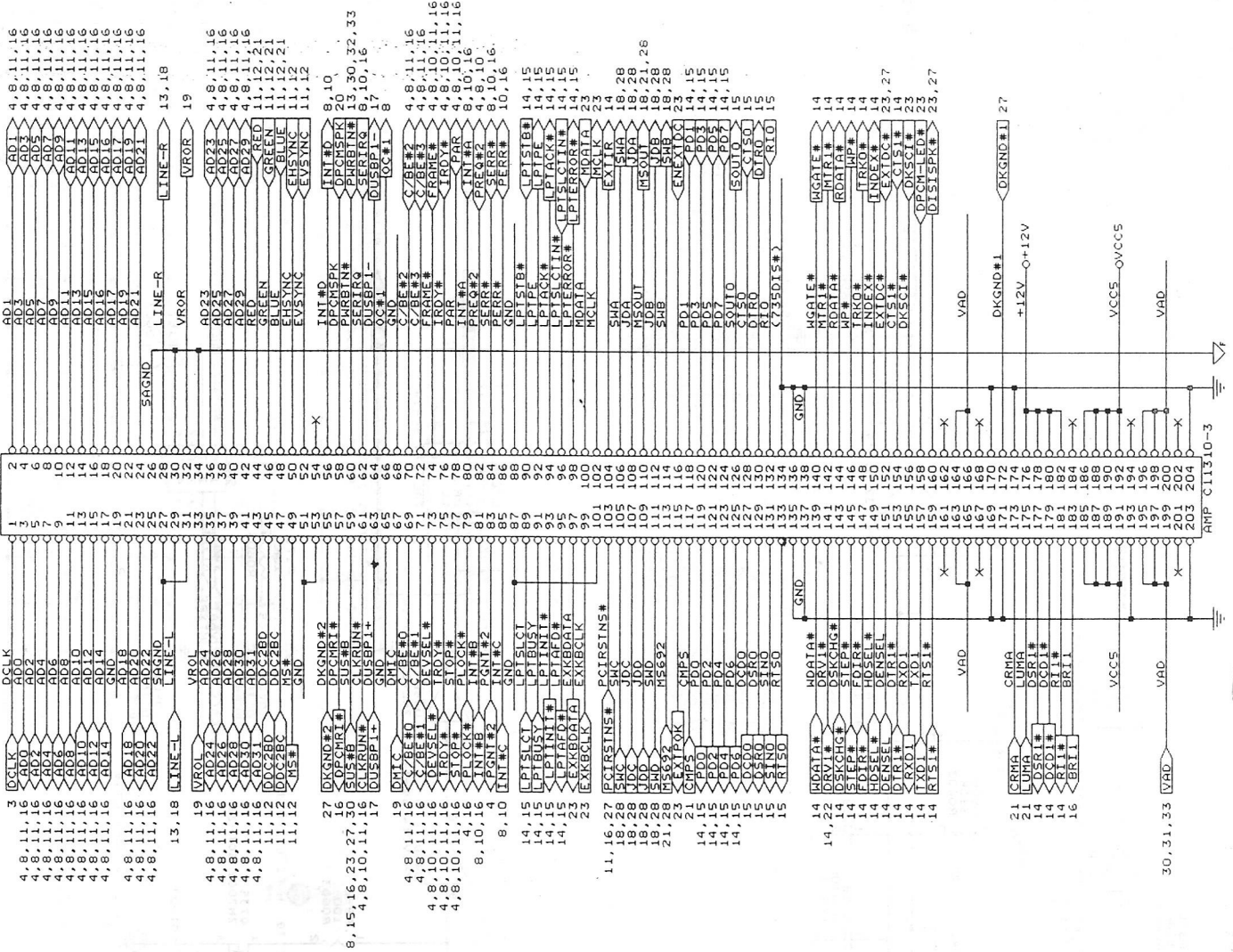


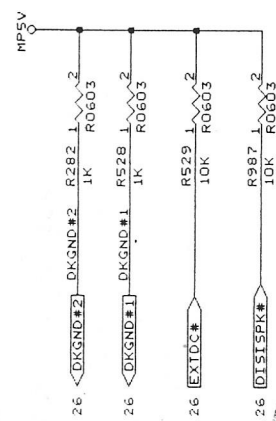
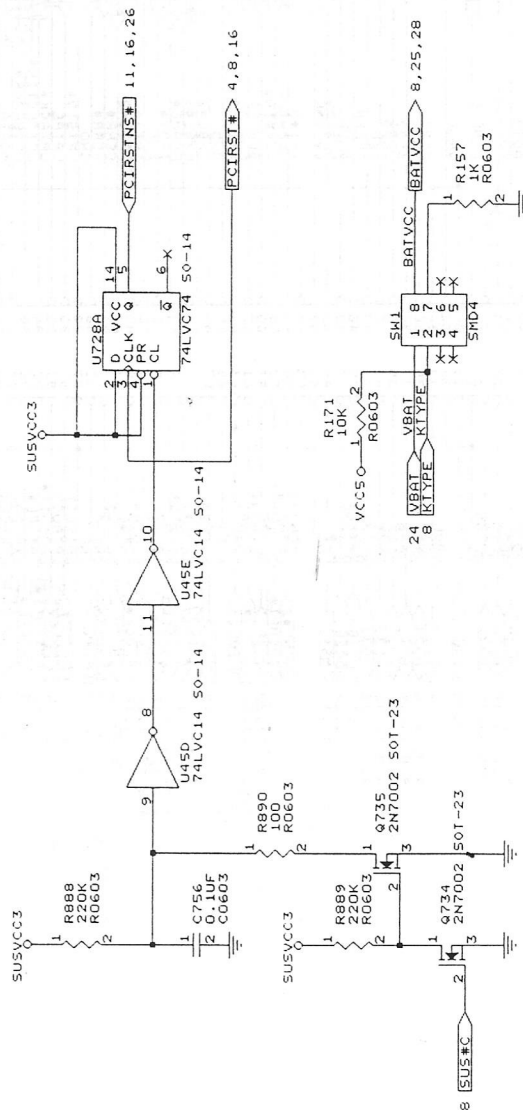
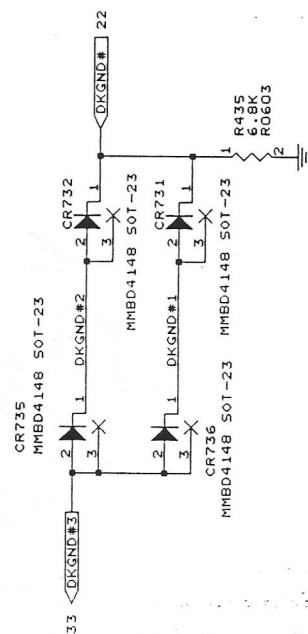
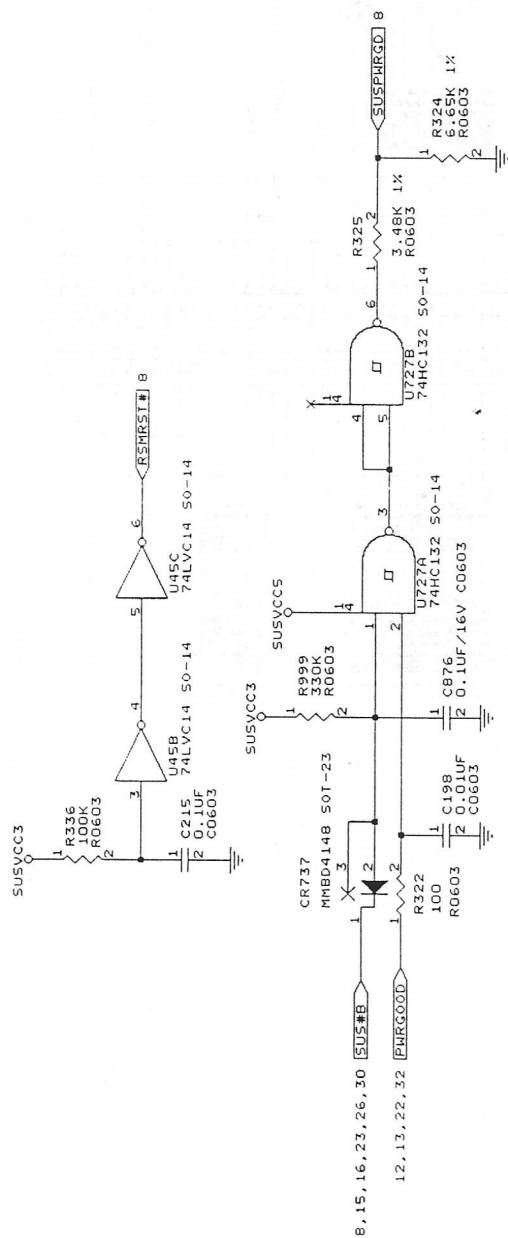
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PIN 137, 138, 159, 170, 171, 172, 203, 204 ARE LONG PINS
PIN 172 IS GND FOR P/R
PIN 104, 136 ARE SHORT PINS
PIN 104 IS ENVA# FOR P/R

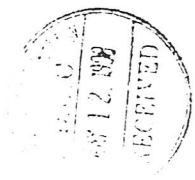
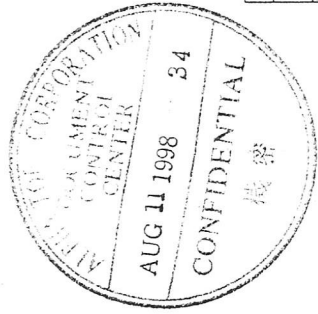
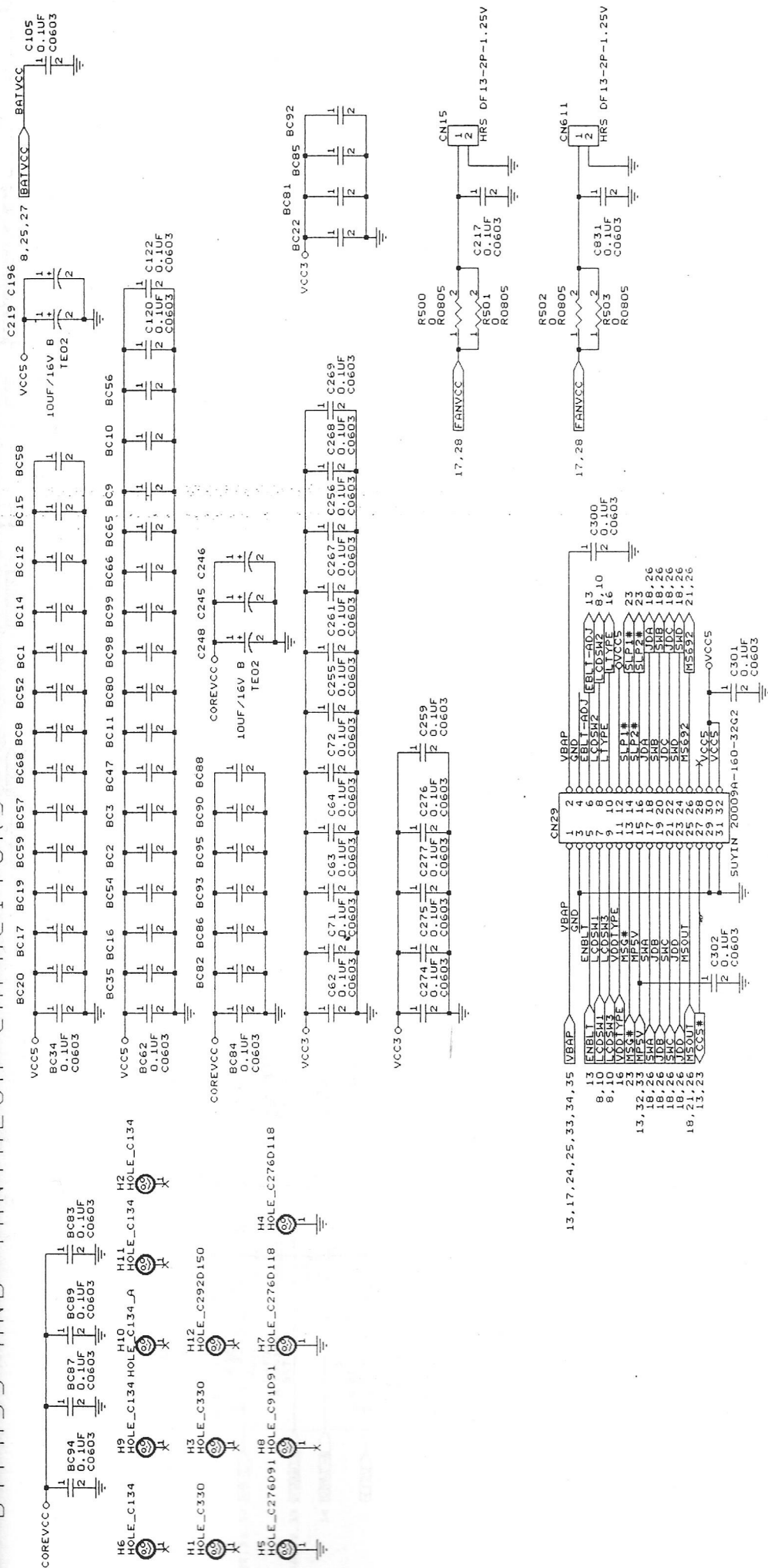




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JUL 17 1993
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Title		SUSPEND PHD ,PCI REST	
Size	Document	Size	REV
B	7735-1-4-06		1.8
Date:	July 16, 1998	Sheet	27 of 36

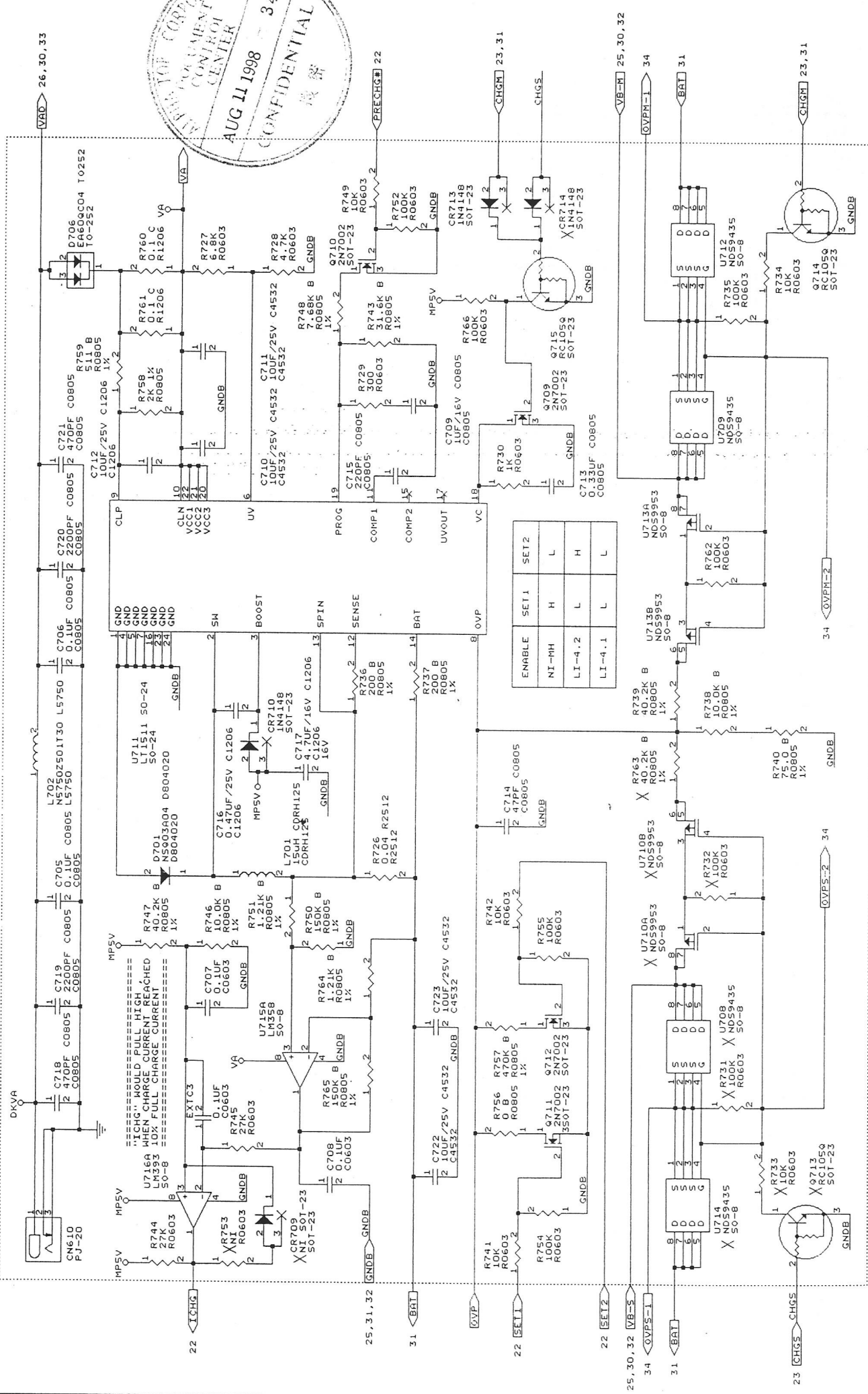
BYPASS AND TANTALUM CAPACITORS



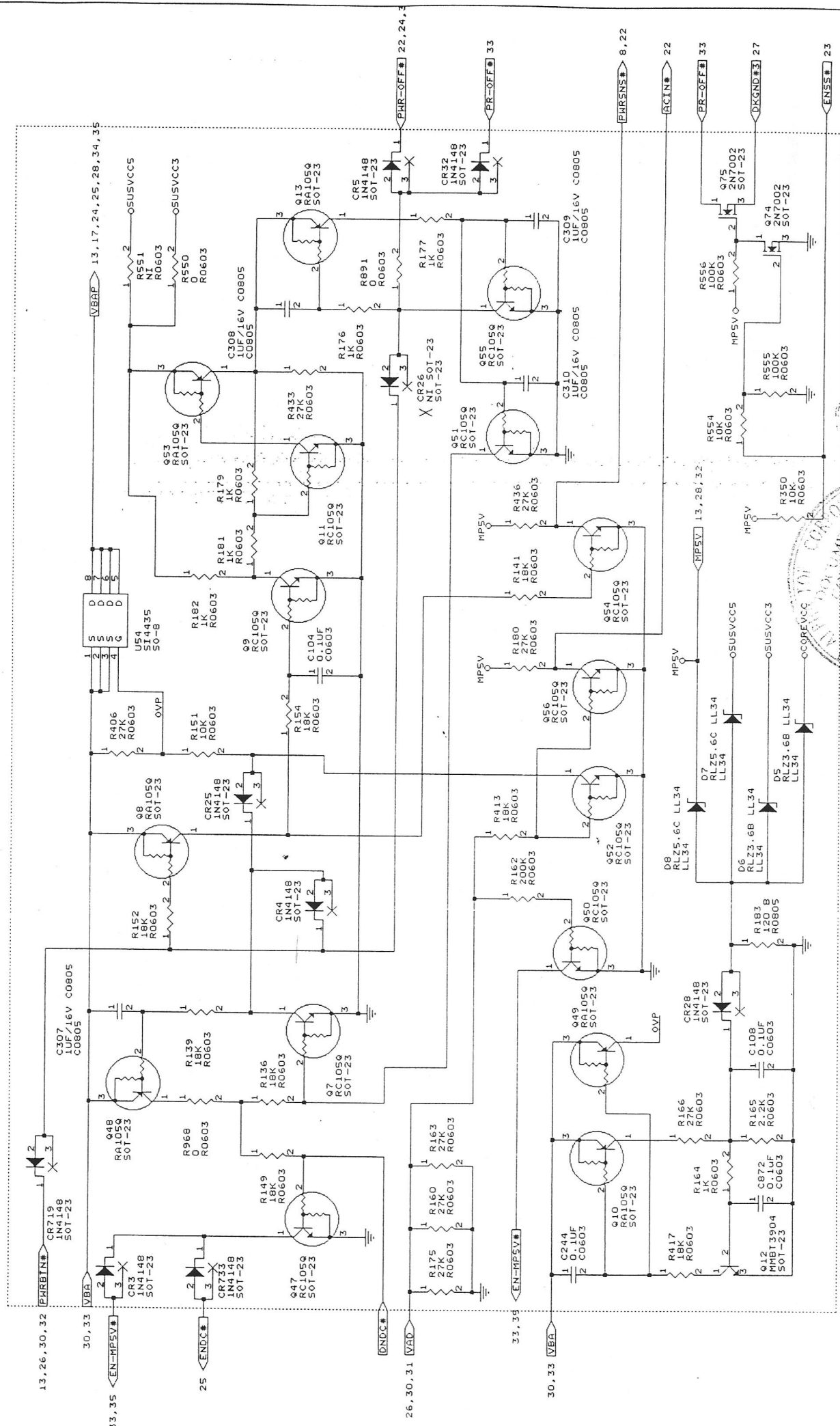
SENO

Title		BYPASS, BULK CAPS, INVERT CONN.	
Size	Document Number	REV	REV
B	G735-1-4-06	1.0	1.0
Date:	May 11, 1998	Sheet	28 of 36

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BATTERY CHARGER



POWER ON/OFF & OVP CIRCUIT

R350
10K-
R0603

OCOREVCG

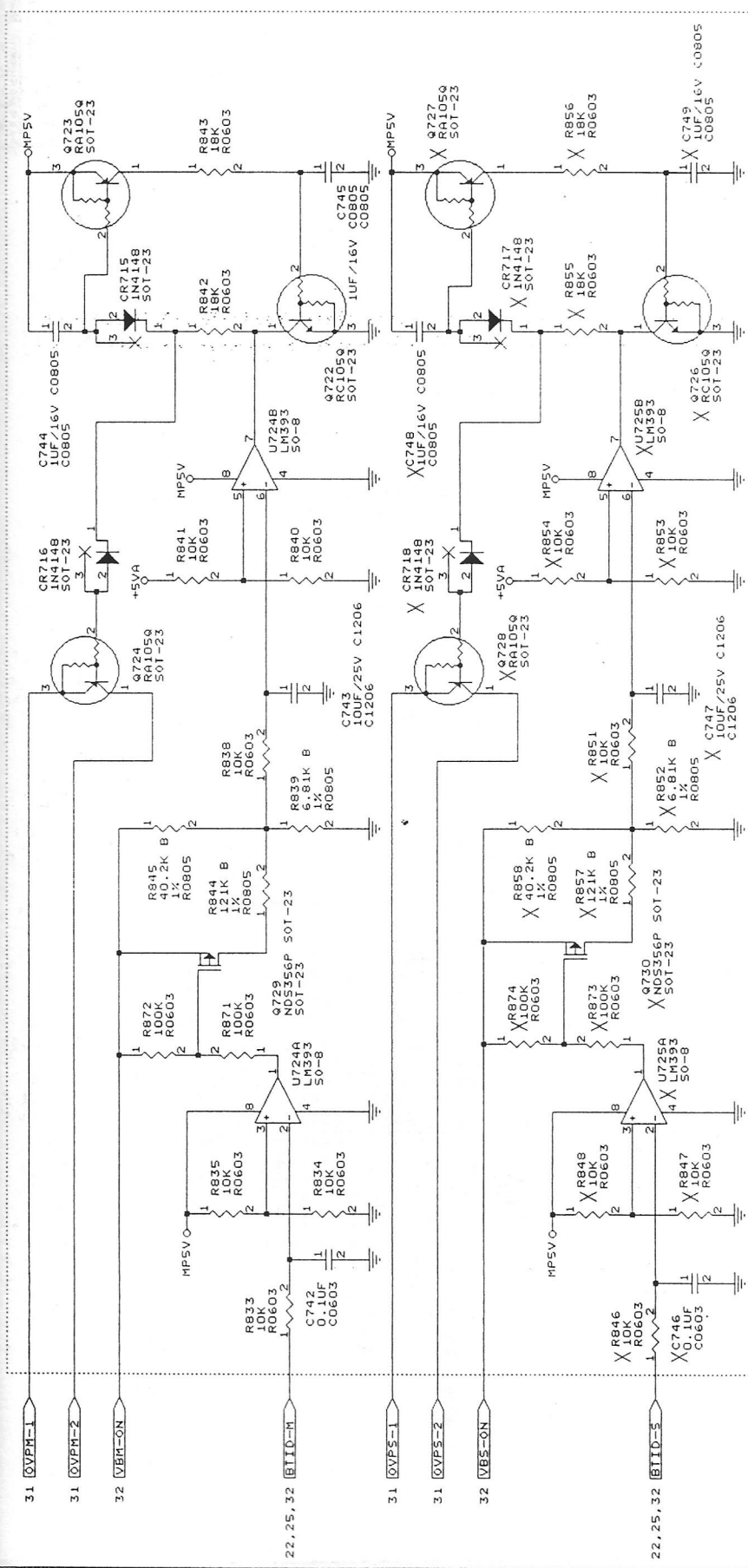
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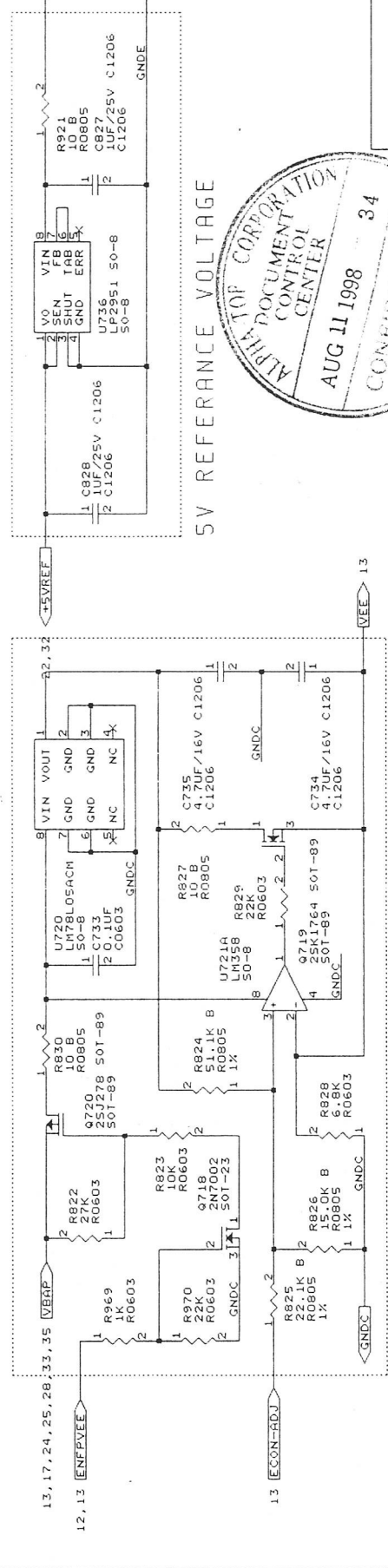
U.S. GOVERNMENT PRINTING OFFICE

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ALPHA-TOP		
Title		
G735 POWER ON BOARD (4)		
Size	Document Number	
B	G735-1-4-06	
Date:	July 2, 1998	Sheet 33 of 36

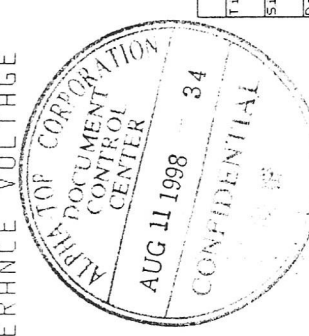


BATTERY OVP



5V REFERENCE VOLTAGE

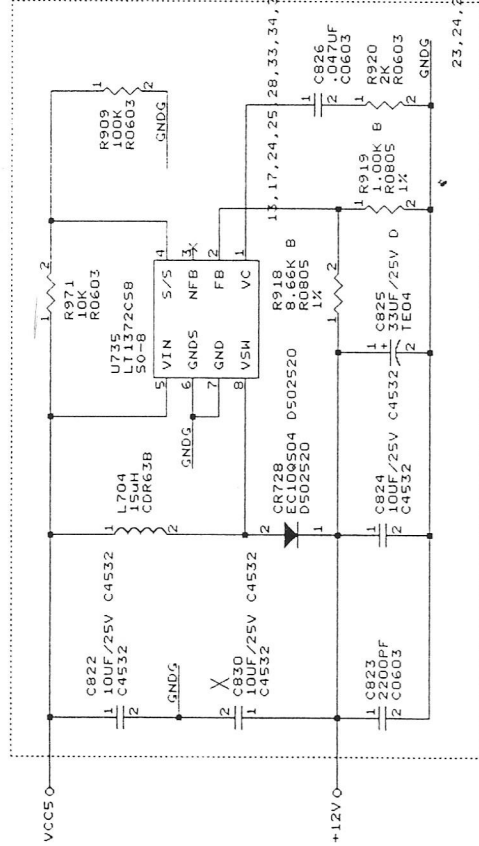
CONTRAST CONTROL POWER SUPPLY VEE



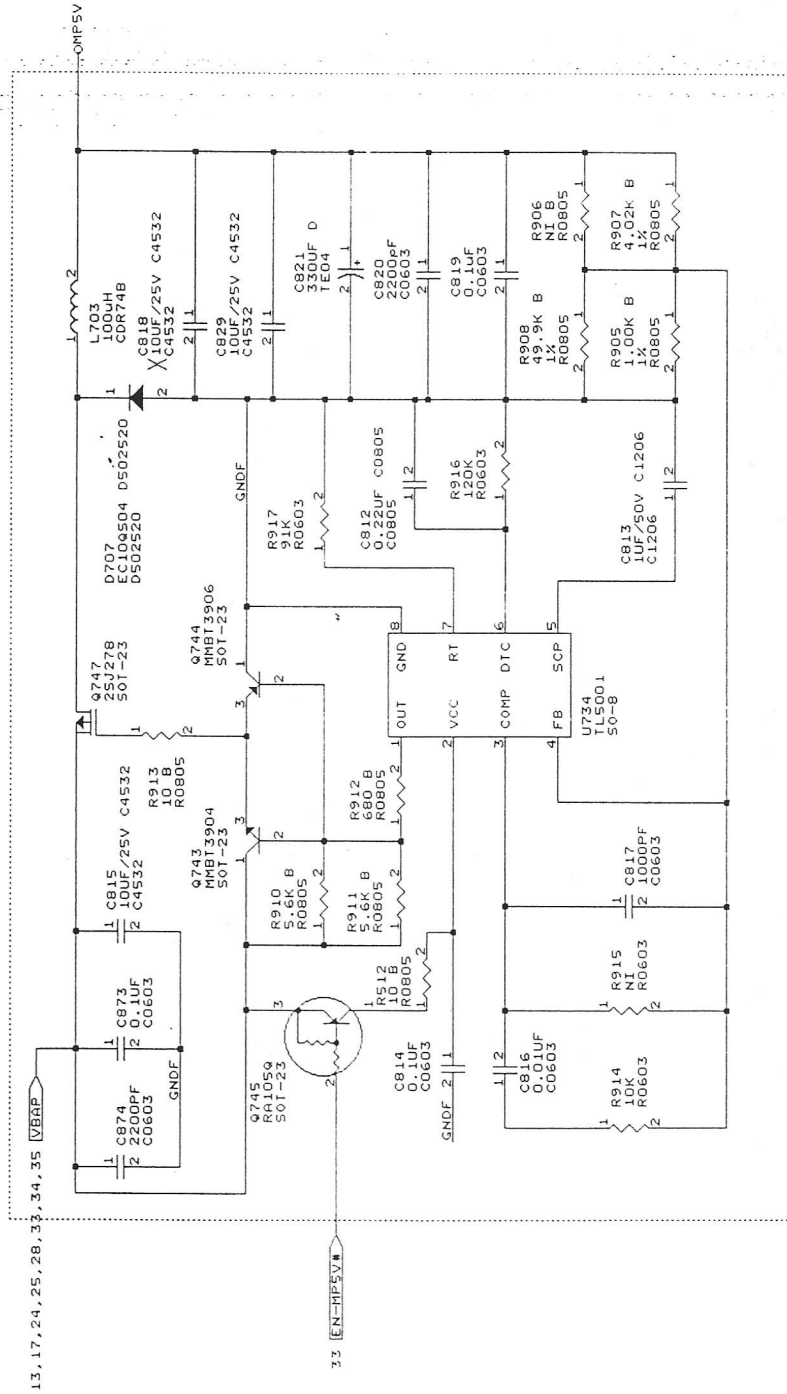
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Size	Document Number	B	G735-1-4-06
REV	1.0		
Date:	May 11, 1998	Sheet	34 of 36

ALPHA-TOP

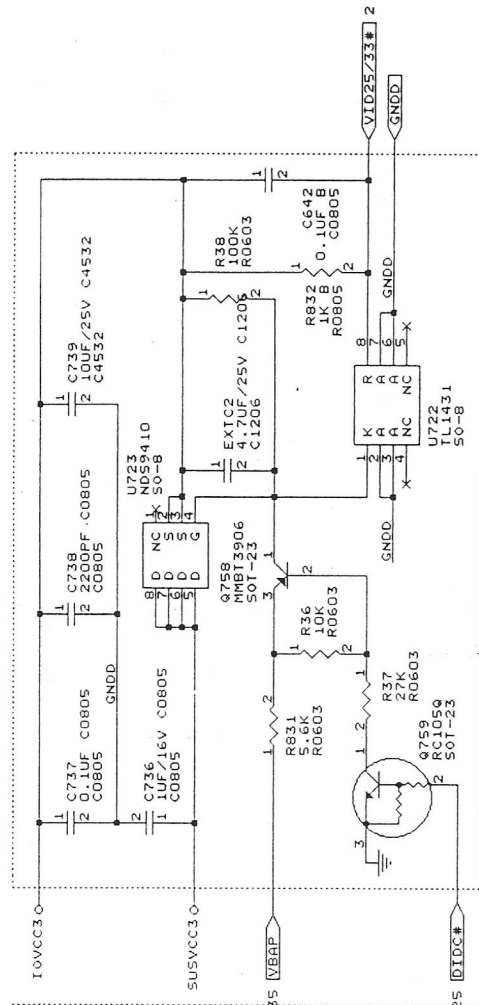
712-1307-1



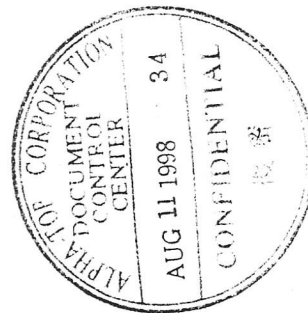
+12V POWER SUPPLY



MP5V POWER SUPPLY



CPU I/O VCC POWER SUPPLY



Title		ALPHA-TOP	
G735 POWER ON BOARD (6)			
Size	Document Number	REV	
B	G735-1-4-06	1.B	
Date:	July 16, 1998	Sheet	35 of 36

For (1981) PA100

REV1.0 : 5/11/1998

1. (SHEET 11) ADD R506/R507/R508
2. (SHEET 11) ADD C500/R509
3. (SHEET 15) ADD C500/CR501
4. (SHEET 15) R537 P1N1 CHANGE FROM VCC5 TO VBAP
5. (SHEET 21) DELETE Y2C50/S51
CHANGE R442/07 TO MK1415
C861/C871 CHANGE FROM 100PF TO 220PF
R193 ADD 2.2K
6. (SHEET 22) R192 CHANGE FROM 0 TO 22K
R193 ADD 2.2K
R195 ADD R504/R505
7. (SHEET 23) R192 P1N1
8. (SHEET 23) ADD R500/S01/S02/S03
9. (SHEET 33) ADD R512

REV1.A : 7/2/1998

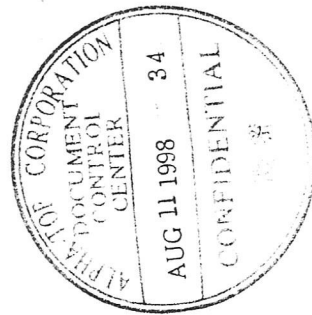
1. (SHEET33) R162 CHANGE FROM 18K TO 200K

REV1.8 : 7/16/1998

1. (SHEET17) C100 CHANGE FROM 3.3K TO 8.2K
2. (SHEET18) R708/C206 CHANGE 0 ohm TO 0.0047UF
3. (SHEET19) R108/109 CHANGE FROM 18K TO 51K
C204/C205 CHANGE FROM 10UF TO 1UF C1206
4. (SHEET20) R15/R21 CHANGE FROM 100K TO 20K
C207/C208 CHANGE FROM 10UF TO 1UF C1206
5. (SHEET21) R159 CHANGE FROM 100K TO 10K
6. (SHEET22) R299 CHANGE FROM 100K TO 330K
ADD EXTRA CAP (C12C) 4.7UF
7. (SHEET23) ADD EXTRA CAP (C12C) 4.7UF

REV1.C : 7/29/1998

1. (SHEET31) R758 ADD 2K 1% R0805
2. (SHEET31) ADD EXT3 (0.1UF C0603) AT U716 PIN2 & PIN3



ALPHA-TOP	
Title	G735 HISTORY
Size	Document Number
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REV	1.0
DATE	11-11-78
BY	15535/SL/et
NO.	35 of 35

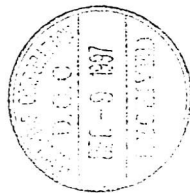
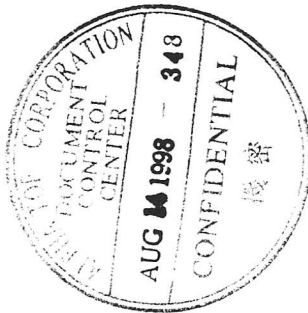
314-9712-11

PAGE 1 : THIS PAGE
PAGE 2 : SPGA CPU (SOCKET 7)
PAGE 3 : CPU BOARD TO M/B CONNECTOR
PAGE 4 : BYPASS CAPS, CPU SETTING
PAGE 5 : CPU COREVCC ID SELECT
PAGE 6 : HISTORY

LINK
1981-2.SCH
1981-3.SCH
1981-4.SCH
1981-5.SCH
1981-6.SCH

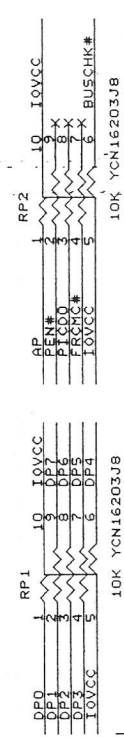
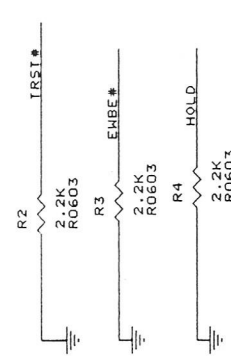
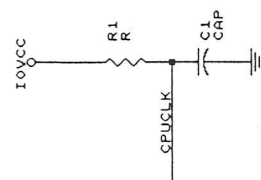
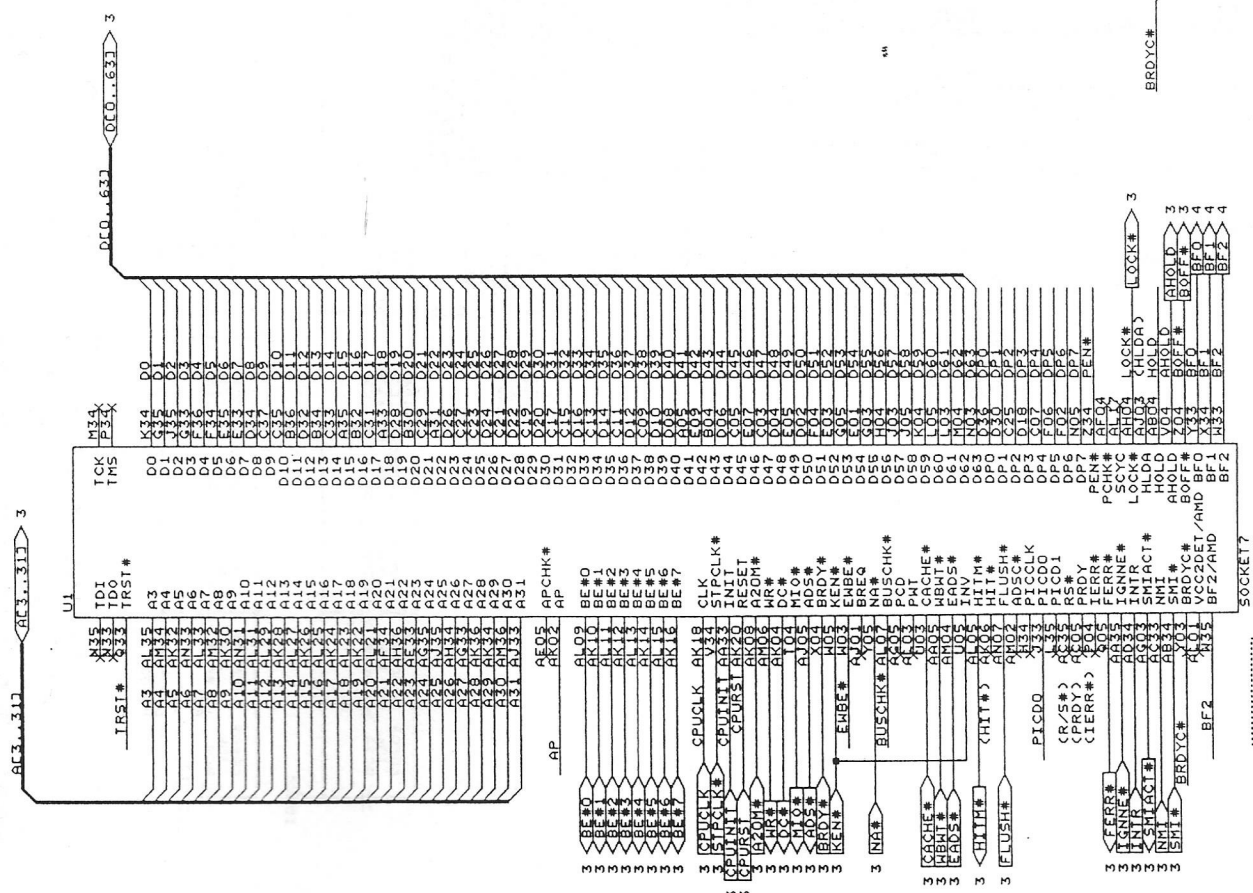
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REVISION	2.0	2.0	2.0	2.0	2.0	2.0
DATE	12/4	12/4	12/4	12/4	12/4	12/4

PART NO : KK418720
GERBER FILE : 981DGBR.ZIP



Approved by	Checked by	Designed by
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
Title		
ALPHA-TOP CORP.		
Size Document Number		
SOCKET 7 54.5*68.5 G756		
REV		
G756-1-4-14		
2.0		
Date: December 4, 1997		
Sheet 1 of 6		

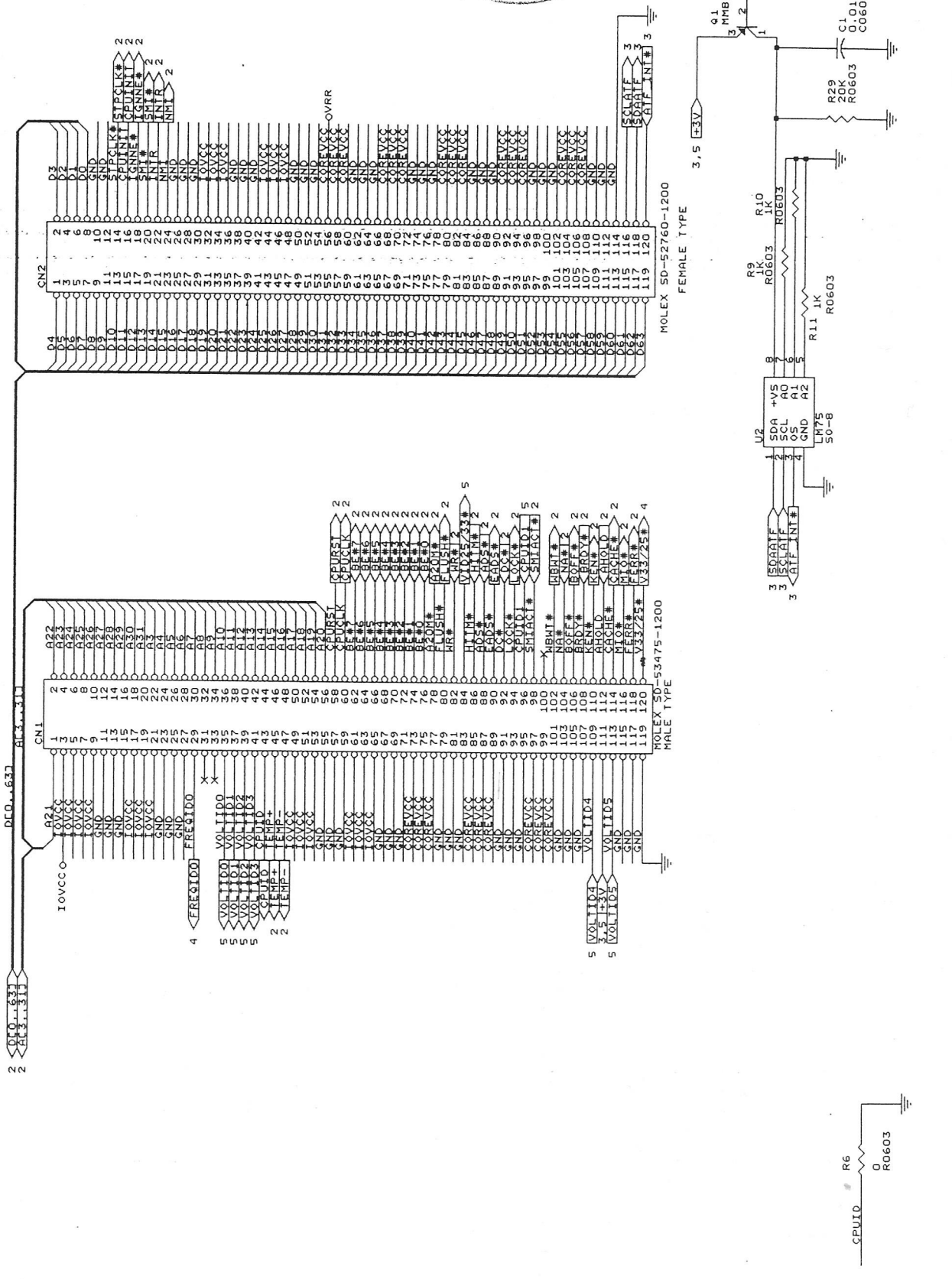
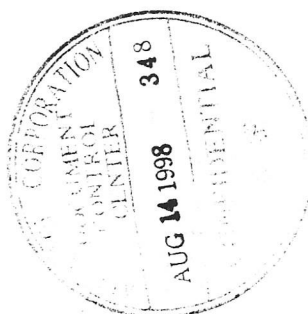
CONFIDENTIAL

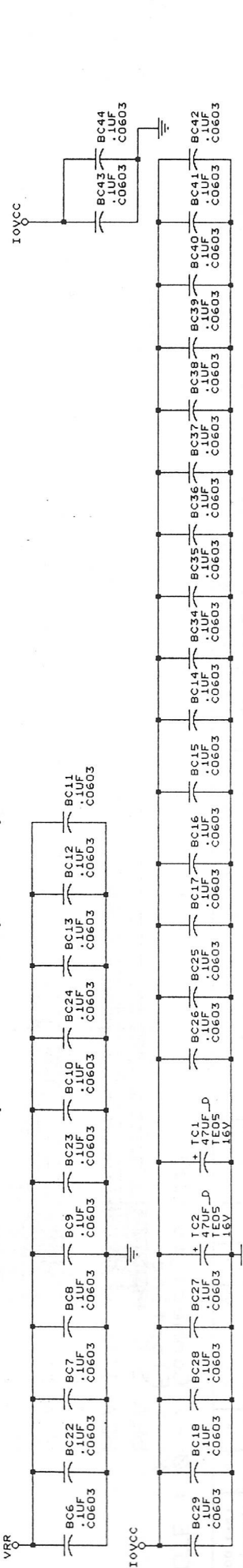
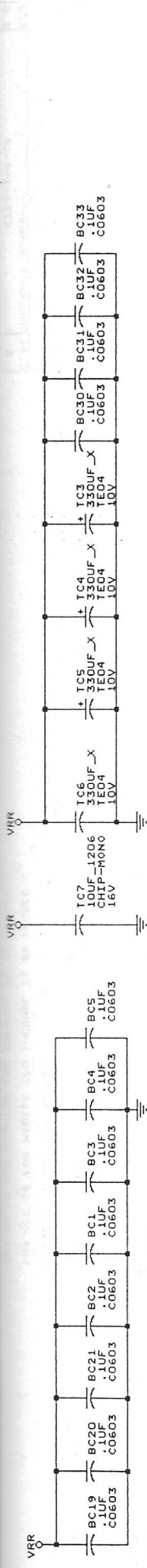


Place this NTC close to CPU.

ALPHA-TOP CORP.	
Title	
SOCKET 7	
Size	Document Number
B	G756-1-4-14
REV	2.0
Date	December 4 1993
By	Sheet 3 of 4

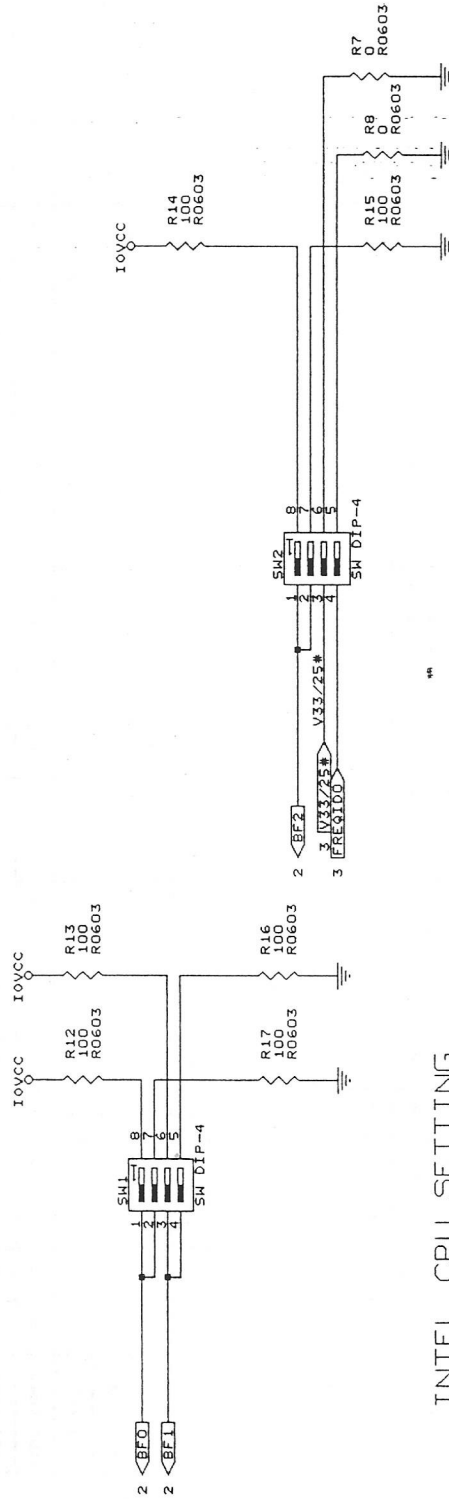
374-970-11





AMD CPU SETTING

	BF0	BF1	BF2	Freq. RATIO
	0	0	0	4.5X
	1	0	0	5.0X
	0	1	0	4.0X
	1	1	0	5.5X
	0	0	1	2.5X
	1	0	1	3.0X
	0	1	1	2.0X
	1	1	1	3.5X



INTEL CPU SETTING

	BF0	BF1	BF2	Freq. RATIO
	0	0	0	2.5X
	1	0	0	3.0X
	0	1	0	2.0X
	1	1	0	3.5X
	0	0	1	4X

NOTES

NOTES



1. BF[2:0] have different defaults depending on different version of the Pentium Processor.
2. V33/25# FOR A26 STRAPING & CLK GEN :HI CPU I
3. VID25/33# FOR DC/DC LO 3.3V, HI 2.5V

214-9712-11

G756 CPU BOARD HISTORY
REV 00:
REV 01: MODIFY M/E
REV 1.0: ADD CPUID FOR DESKTOP ,MOBILE CPU & TEST PAD
REV 2.0: MODIFY LM75 VCC3



Title			ALPHA-TOP CORP.
G756 CPU BOARD HISTORY			
Size	Document Number	REV	
8	G756-1-4-14	2.0	

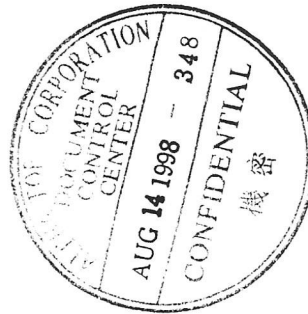
312-9806-11

G756/U360 TCP BOARD

- PAGE 1 : THIS PAGE
- PAGE 2 : TCP CPU
- PAGE 3 : CPU BOARD TO M/B CONNECTOR
- PAGE 4 : BYPASS CAPS,CPU SETTING
- PAGE 5 : CPU COREVCC ID SELECT
- PAGE 6 : HISTORY

LINK
:141502.SCH
:141503.SCH
:141504.SCH
:141505.SCH
:141506.SCH

PAGE NO.	1	2	3	4	5	6
REVISION	2.A	2.0	2.A	2.0	2.0	2.A
DATE	6/16	12/28	6/16	12/28	12/28	6/16



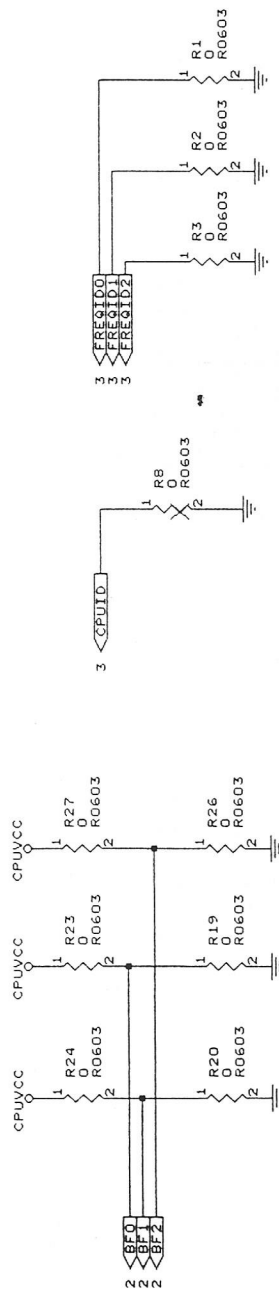
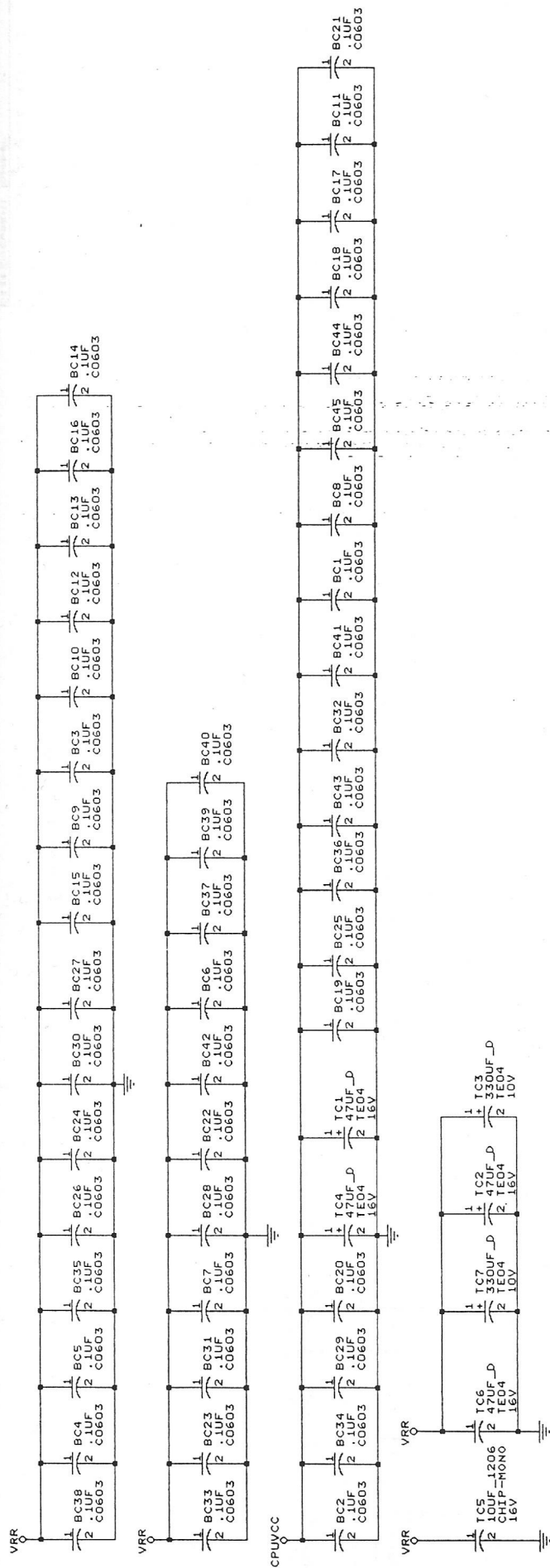
Appr. by	Check by	Design by
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
ALPHA-TOP CORP.		
Title		
G756/U360 TCP BOARD COVER PAGE		
Size Document Number		
B G756-1-4-15		
Date: June 16, 1998		
Sheet 1 of 2		
REV 2.A		

P/N : KK418820
GERBER : KK418820.EXE

Nicolet
JUN 16 98

place this NTC close to CPU.

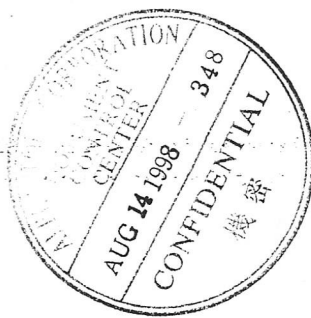
Title		REV
G756/U360 CPU BOARD TO M/B CONNECTOR		2, A
Size	Document Number	
B	G756-1-4-15	
Date:	June 16, 1998	Sheet 3 of 6



FREQIDC2[0]	Frequency (MHz)
2 1 0	
X X 1	66
X X 0	60

NOTES

For proper operation,
VALID must be connect to GND
or left no-connected.

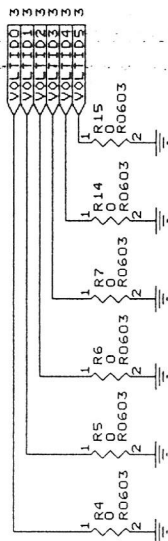


	BF0	BF1	BF2	Freq. RATIO
	0	1	0	2.0X
	0	0	0	2.5X
	1	0	0	3.0X
	1	1	0	3.5X
	0	0	1	4X

NOTE
..

BF[2:0] have different defaults depending on different version of the Pentium Processor.

For proper operation,
VALID must be connect to GND
or left no-connected.



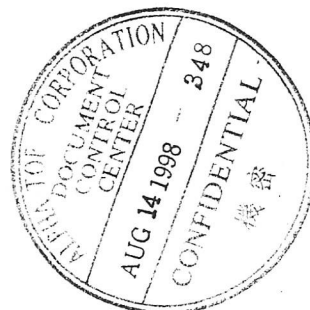
VOLTD	LOGIC
NC	X
GND	0

[illegible]

	VRR	4.35	4.30	4.25	4.20	4.15	4.10	4.05	4.00	3.95	3.90	3.85	3.80	3.75	3.70	3.65	3.60	3.55	3.50	3.45	3.40	3.35	3.30	3.25	3.20	3.15	3.10	3.05	3.00	2.95	2.90	2.85	2.80
	VOLTD																																
	ID5 <R20>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ID4 <R23>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	ID3 <R7>	0	0	0	0	0	0	0	0	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ID2 <R6>	0	0	0	0	x	x	x	x	0	0	0	0	x	x	x	x	0	0	0	0	x	x	x	x	0	0	0	0	0	0	0	0
	ID1 <R5>	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x	0	0	0	0	0	0	0	x	0	0	0	0
	ID0 <R4>	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	x	x	0	x	0	x	x	x	0	x	0	x	0	x

[illegible]

NOTE: $\emptyset \rightarrow$ Connect to GND
X $\rightarrow$ Floating



ALPHA-TOP	
Title CPU COREVCC SELECT ID	
Size	Document Number
B	G756-1-4-15
Date	December 20, 1997
REV	2.0

REV:00

REV:01

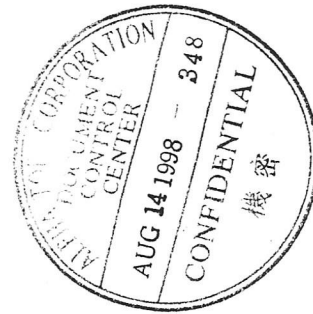
1. SEPARATE LM75VCC FROM SYSTEM VCC3

REV:2.0

1. CHANGE TC3 , TC7 FROM 47U/16V TO 330U/10V

REV:2.A

ADD A RESISTOR 24.9K AT LOCATION R16 TO ADJUST IOVCC FROM 2.5V TO 2.6V
TO SOLVE THE PROBLEM THAT IMIXG571CYB CLOCK GENERATOR OUTPUT DRIVE CAPABILITY
TOLERANCE RANGE IS TOO WIDE AND CAUSE CLOCK HIGH-TIME LESS THAN SPEC.

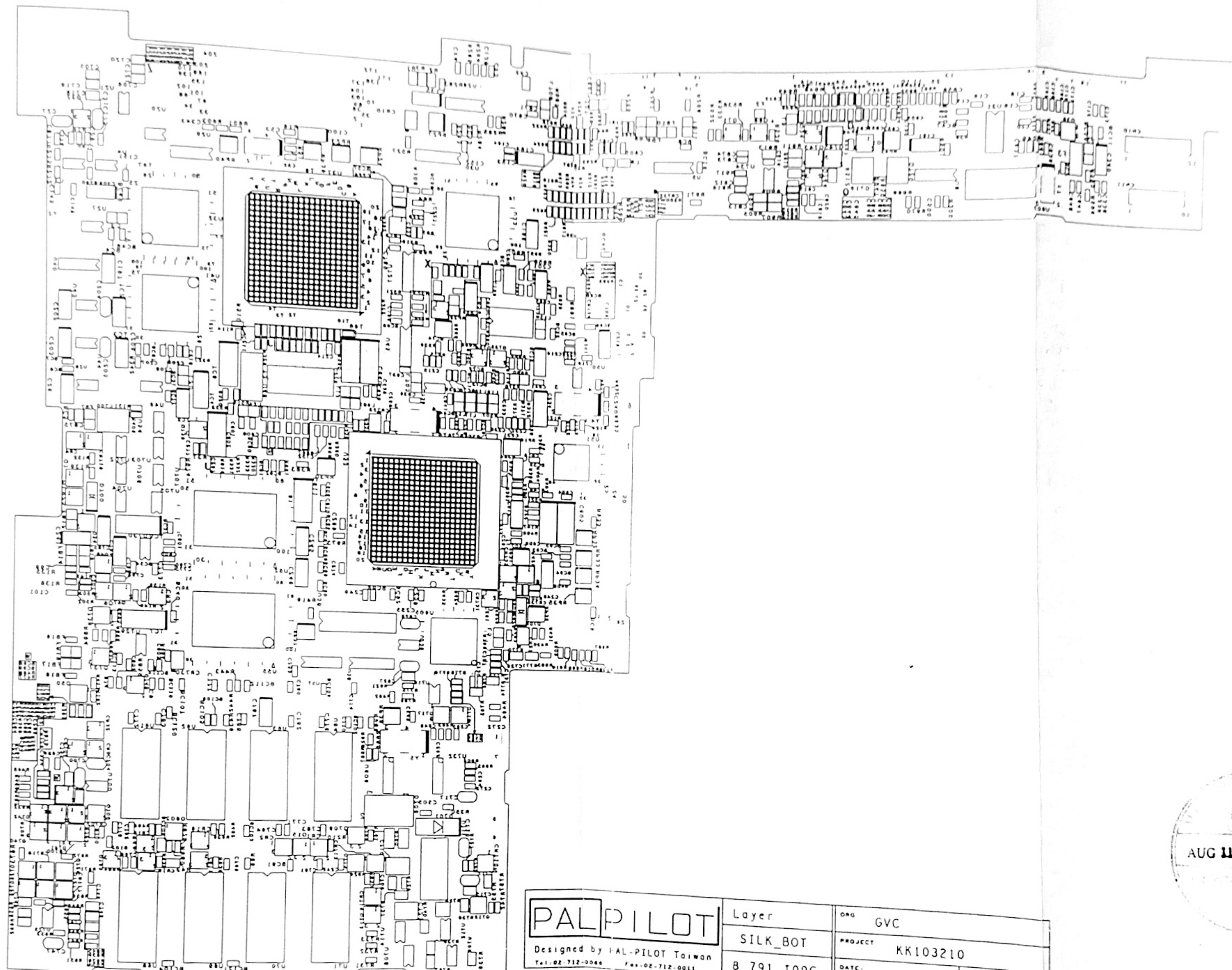


Title		ALPHA-TOP CORP.	
History		HISTORY	
Size	Document Number	REV	
B	G756-1-4-15	2.A	
Date	June 16, 1998	Sheet	6 of 6



Chapter 12 System Block Diagram

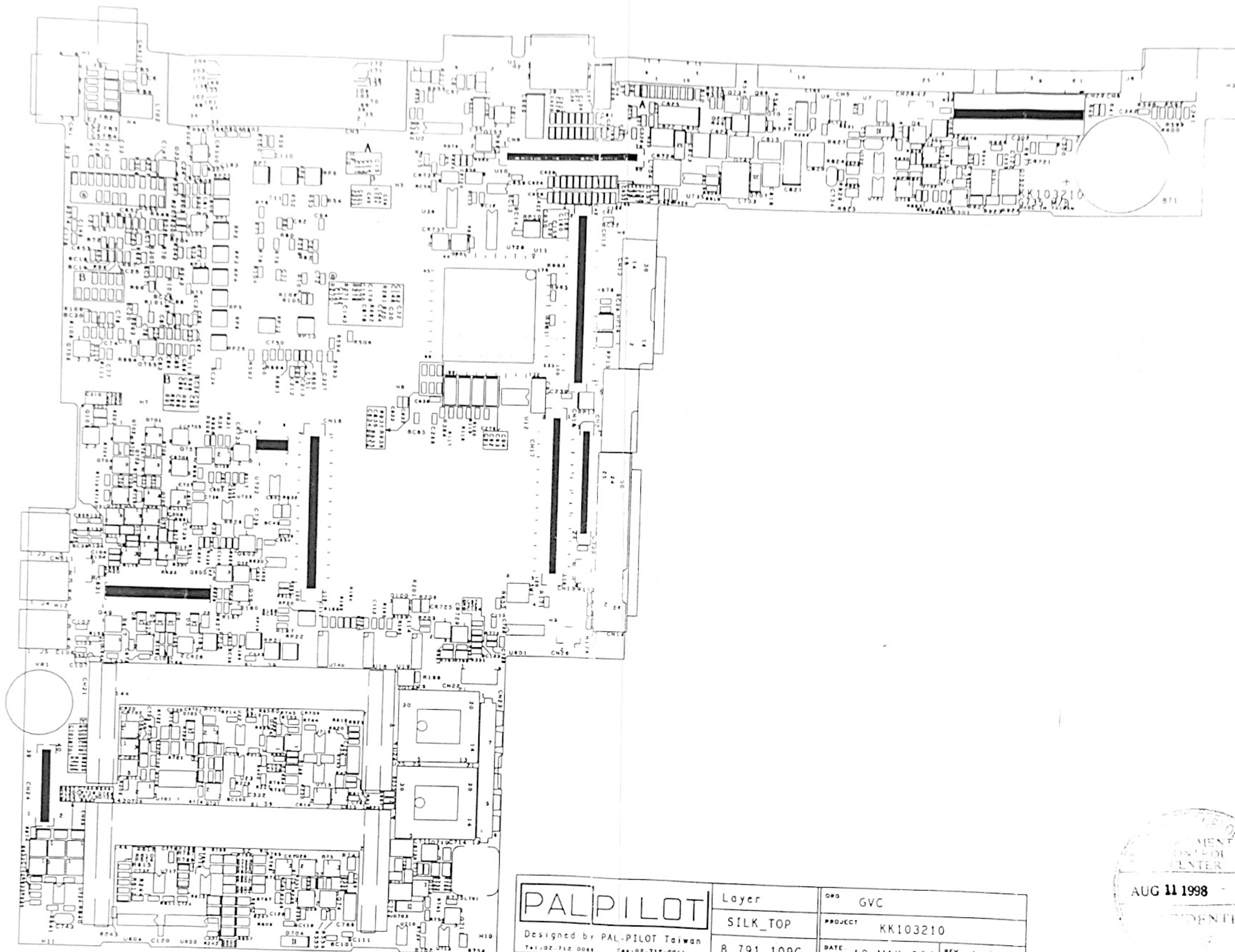




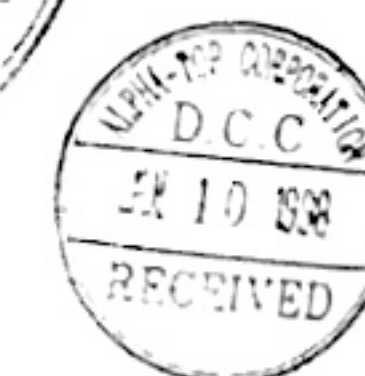
PAL-PILOT Designed by PAL-PILOT Taiwan Tel: 02-712-0066 Fax: 02-712-0011	Layer	ORG GVC
	SILK_BOT	PROJECT KK103210
	8_791.109C	DATE: 19 MAY 98' REV 1.0



ALPHA-TOP CORPORATION	MODEL	G735	PROJECT LEADER	DESIGN	CHECK	LAYOUT
	PCB NAME	N/B	Aven Power 6/1	6/1	[Signature]	[Signature]
PAGE 3/3	DWG NO.	G735-2-3-01				
VER 1.0	PART NO.	KK103210				

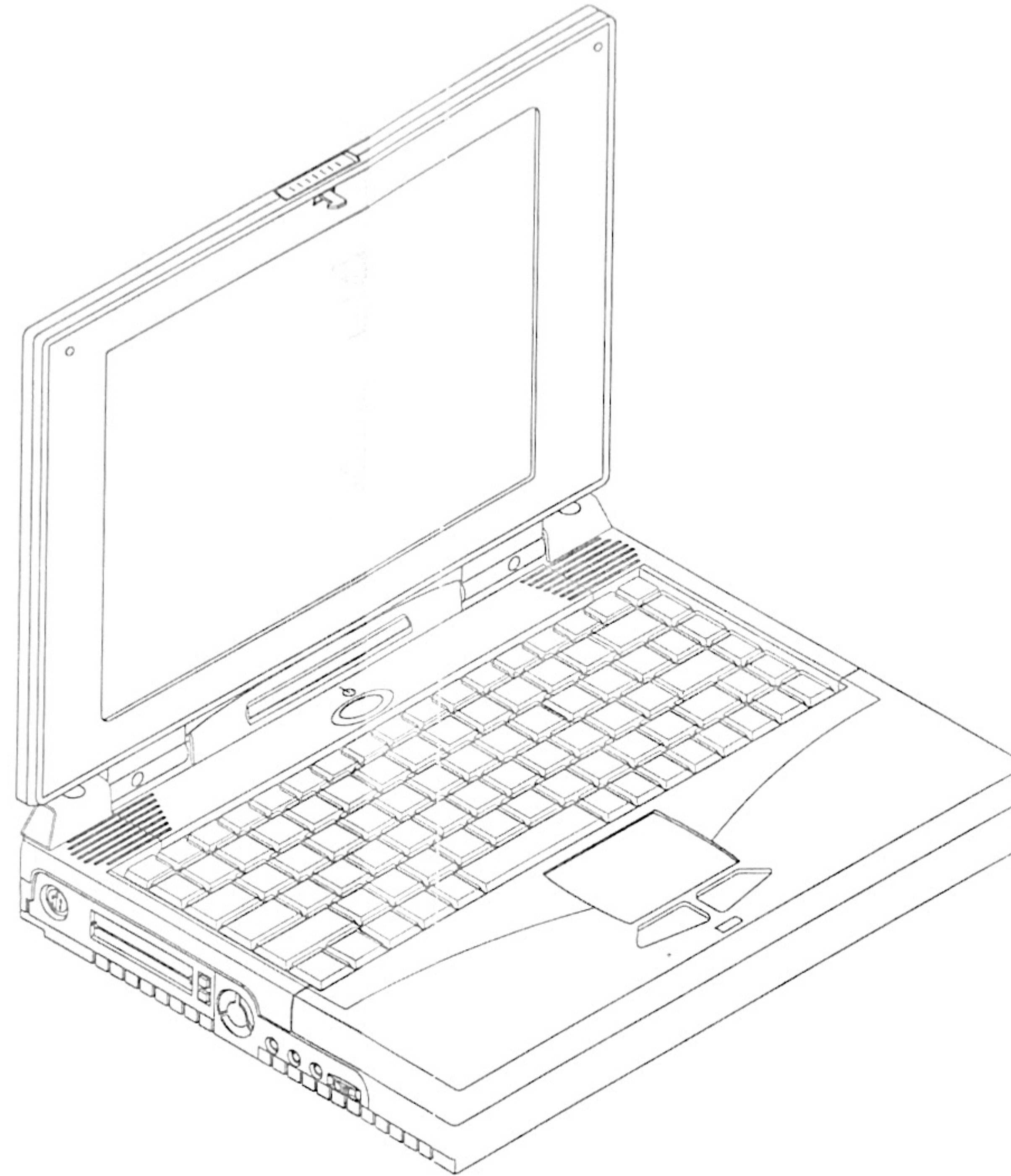


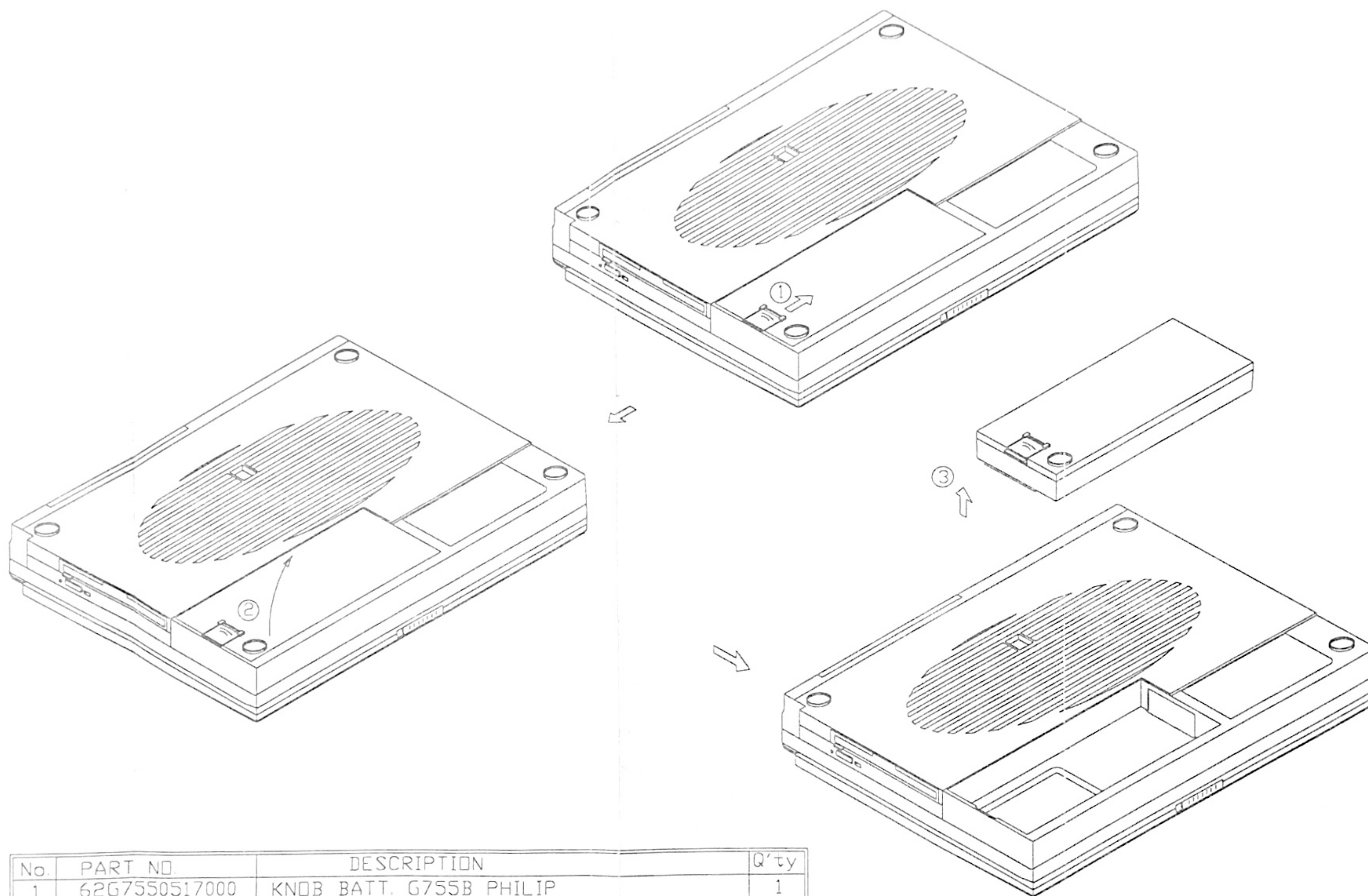
PAL PILOT Designed by PAL-PILOT Taiwan Tel: 02-712-0081 Fax: 02-712-0011	Layer	GVC	
	SILK_TOP	PROJECT KK103210	
	8_791.109C	DATE: 19 MAY 98	REV 1 0



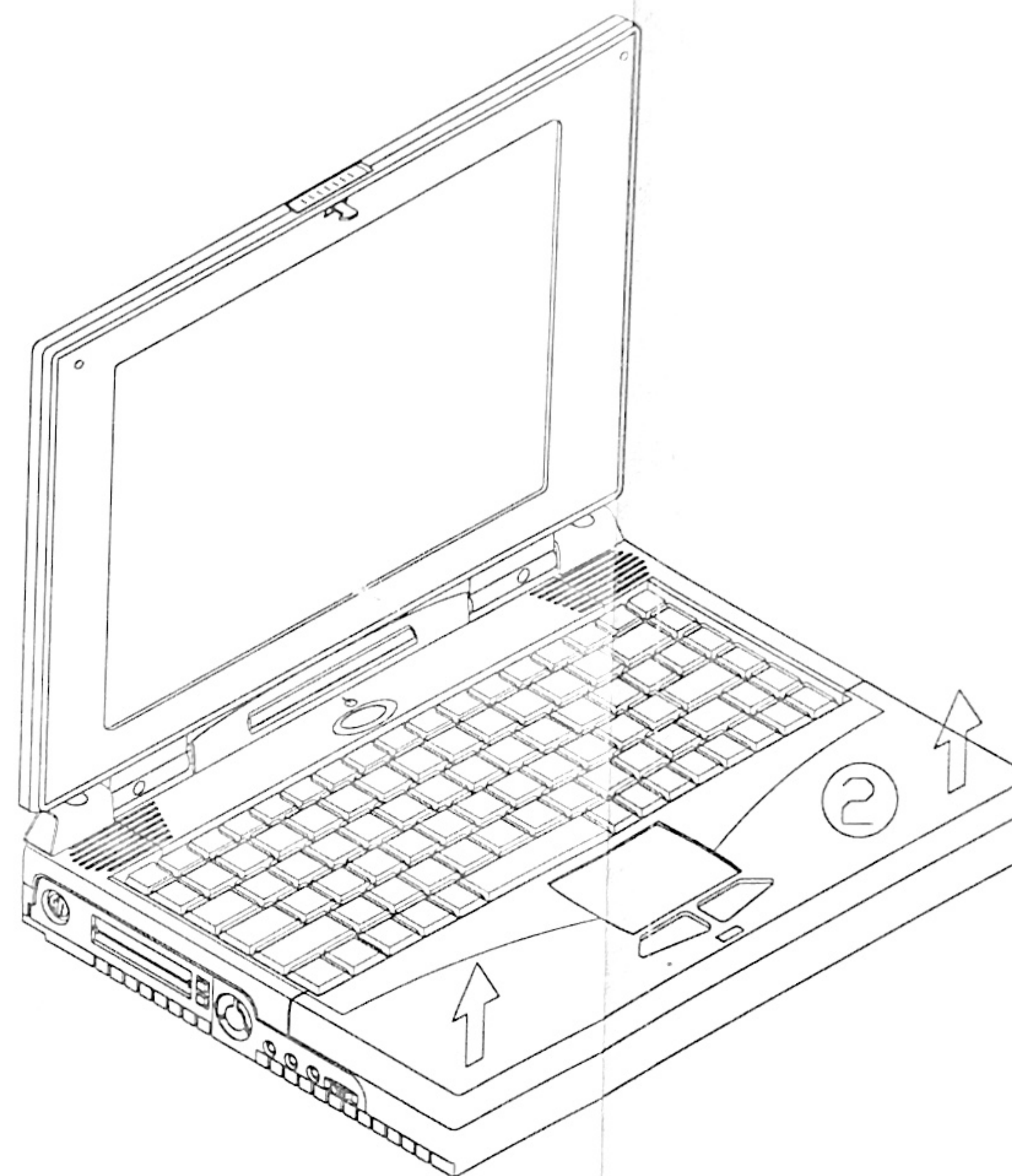
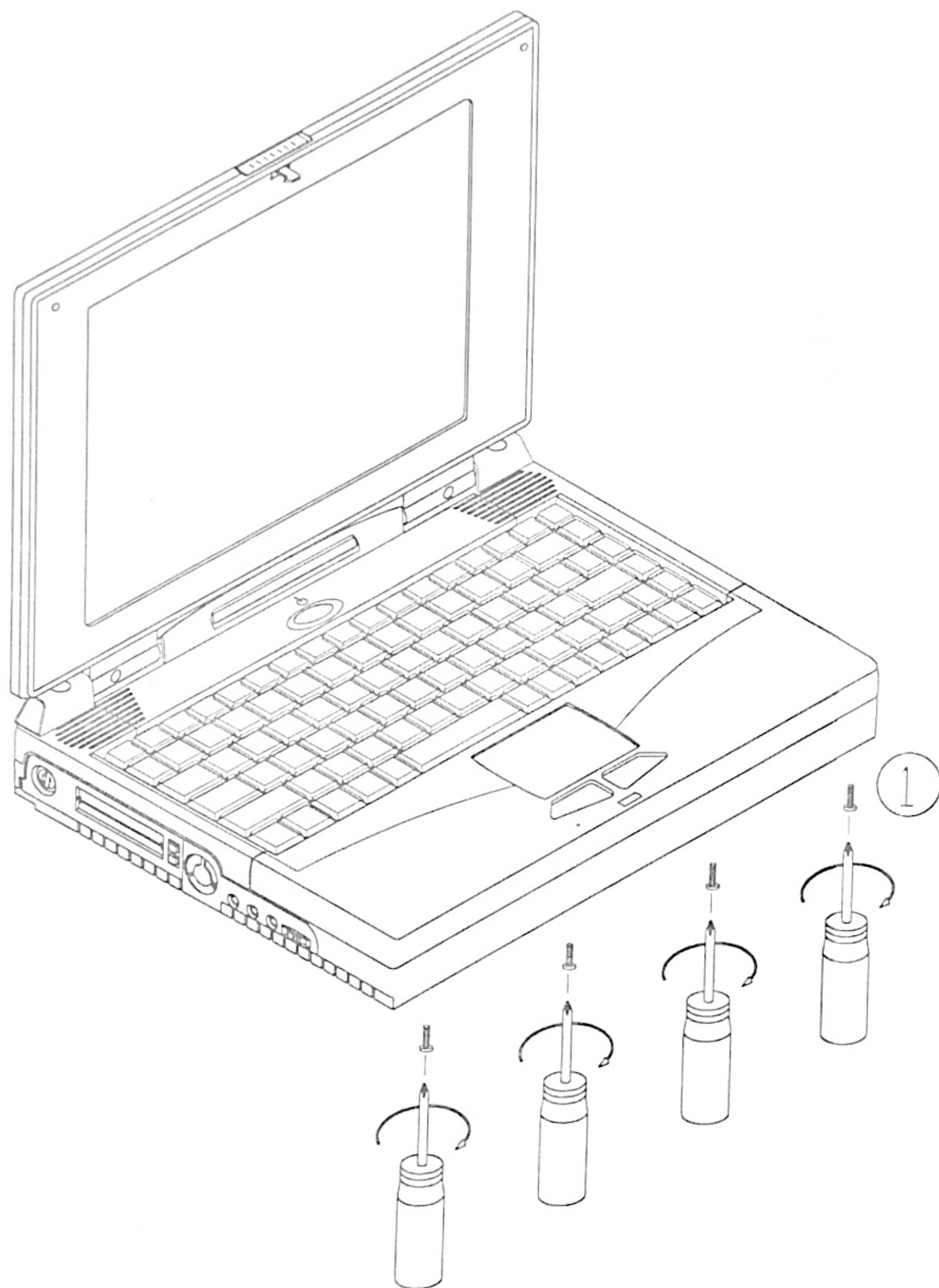
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		PCB NAME	Amen	Amen		
		DWG NO.				
PAGE 2/15	VER 1.0	PART NO.	6/1	6/1		
		MODEL	G735			
		PCB NAME	M/B			
		DWG NO.	G735-2-3-01			
		PART NO.	KK103210			

Chapter 14 System & Module Parts Assembly and Disassembly Diagram

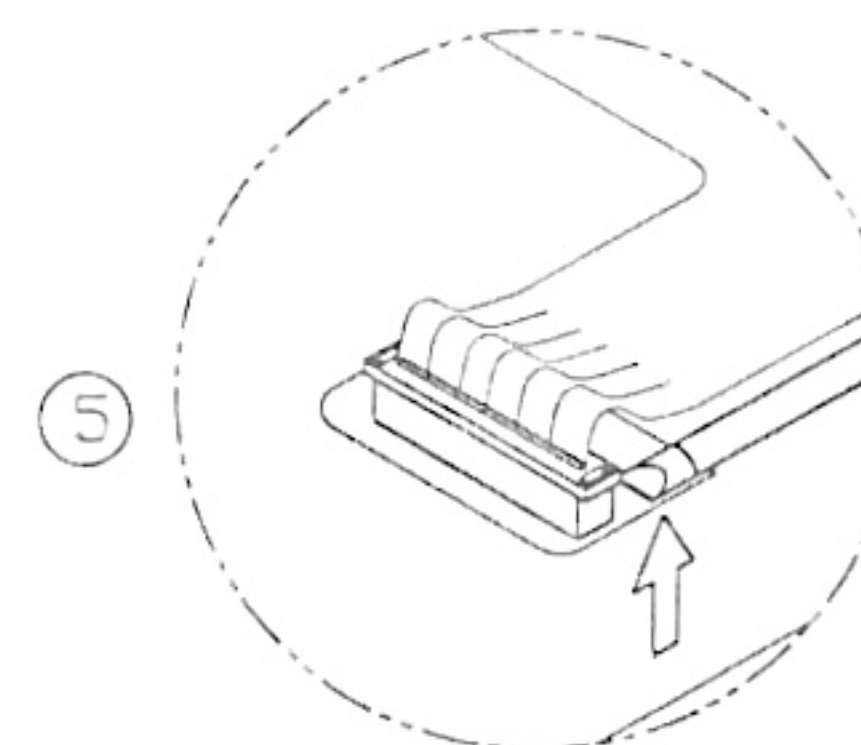
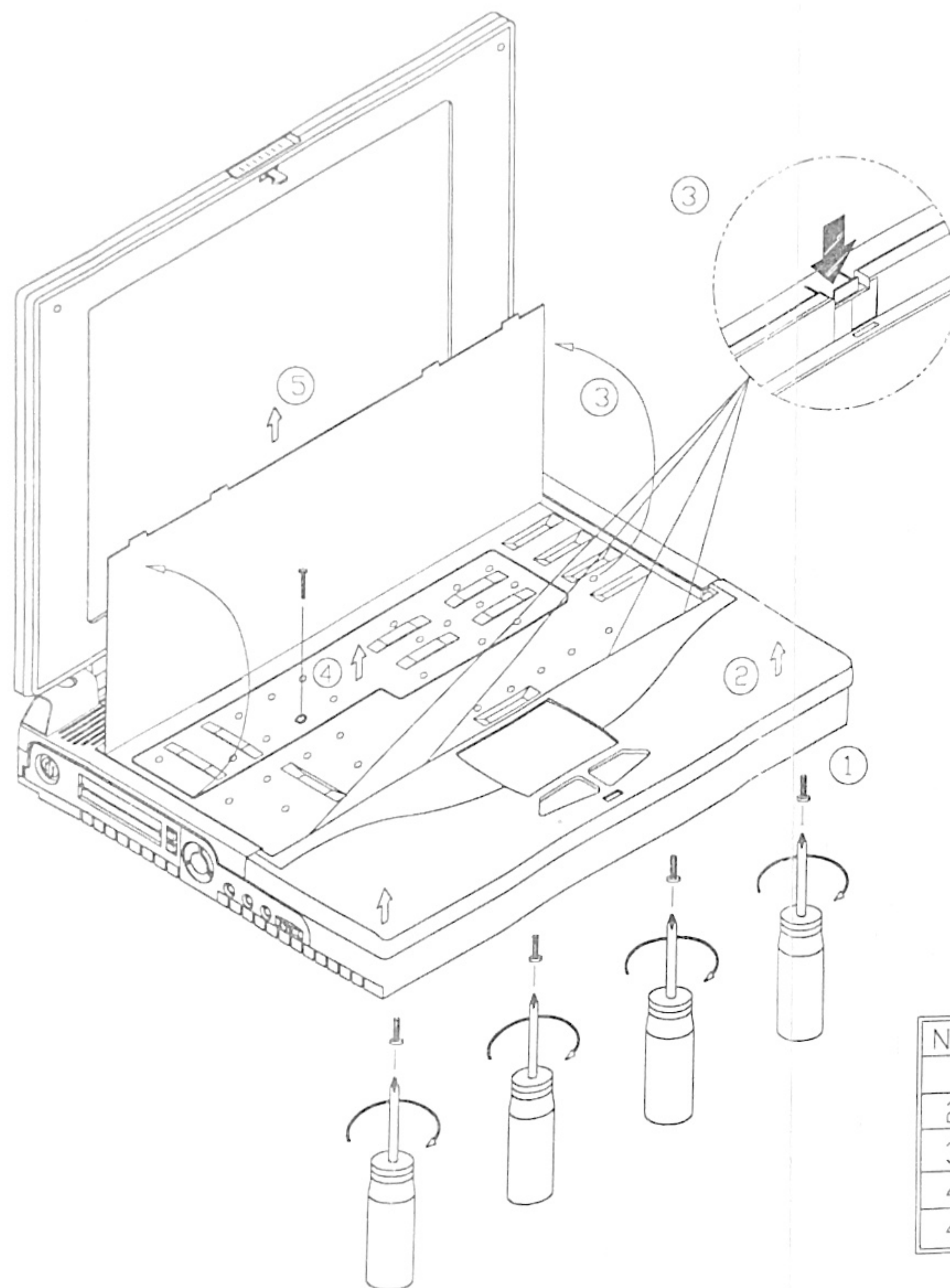




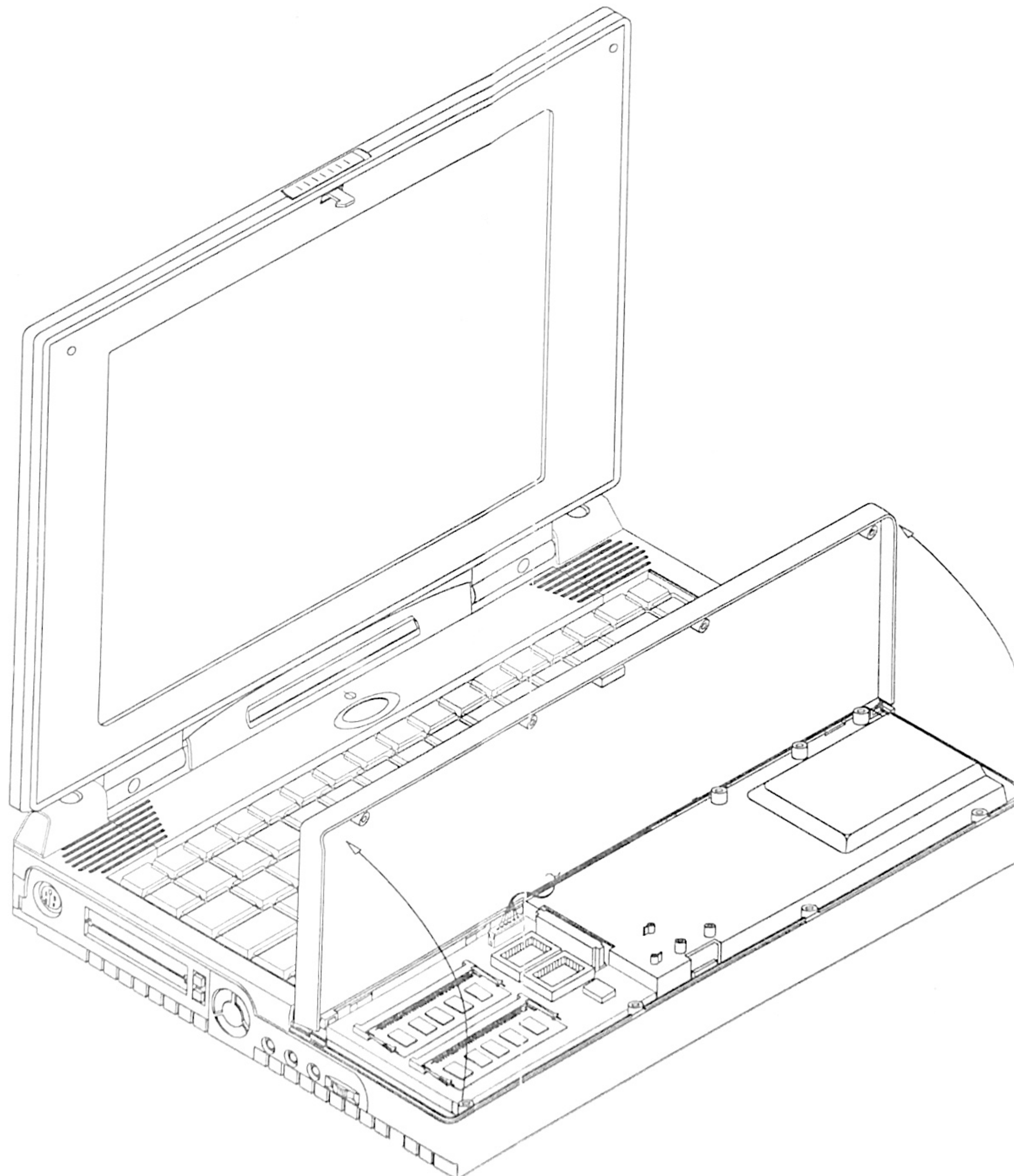
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2	62G7560310000	ASS'Y BATTERY SANYO LI-ION 4050mA G756	1
3			

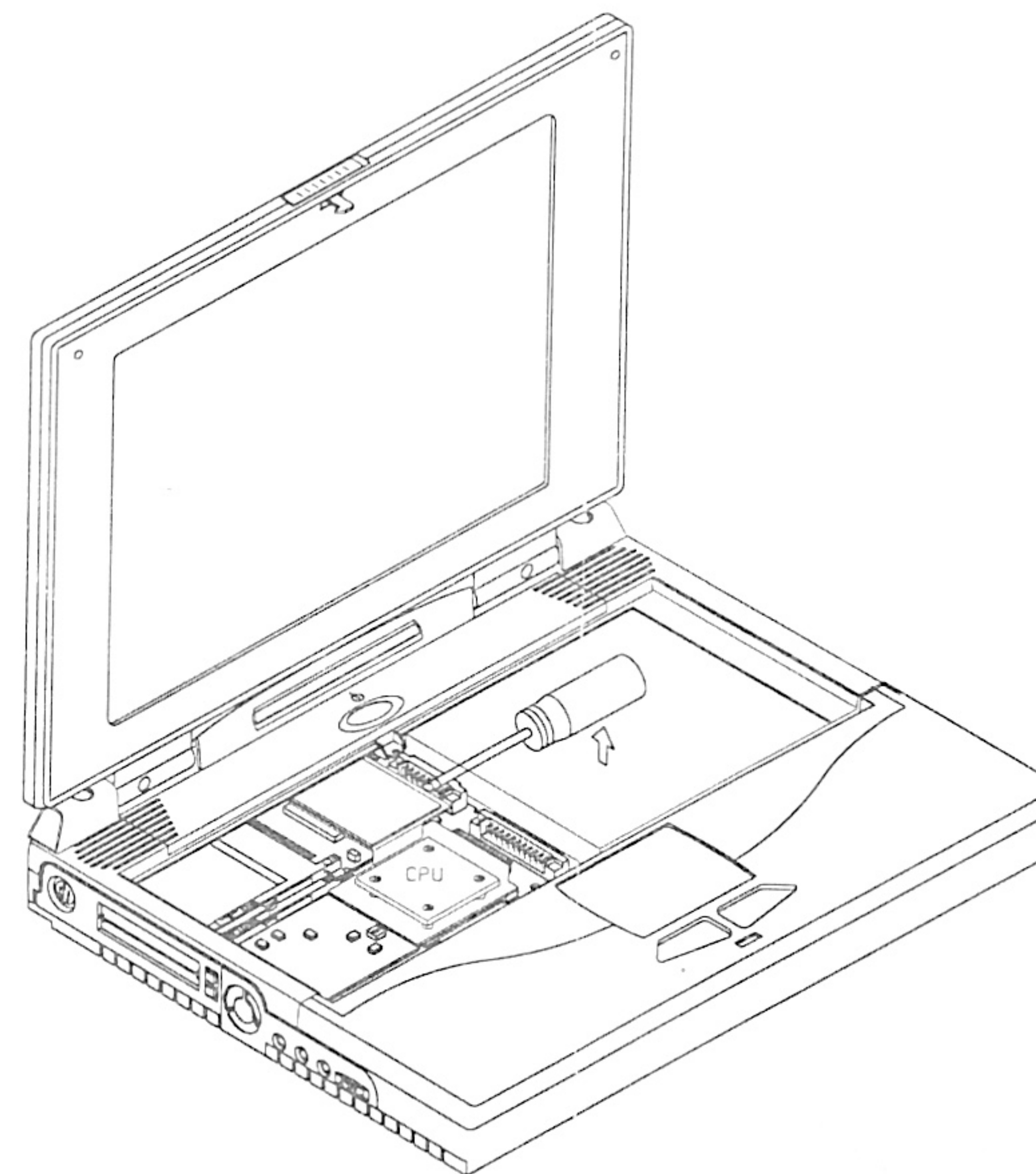
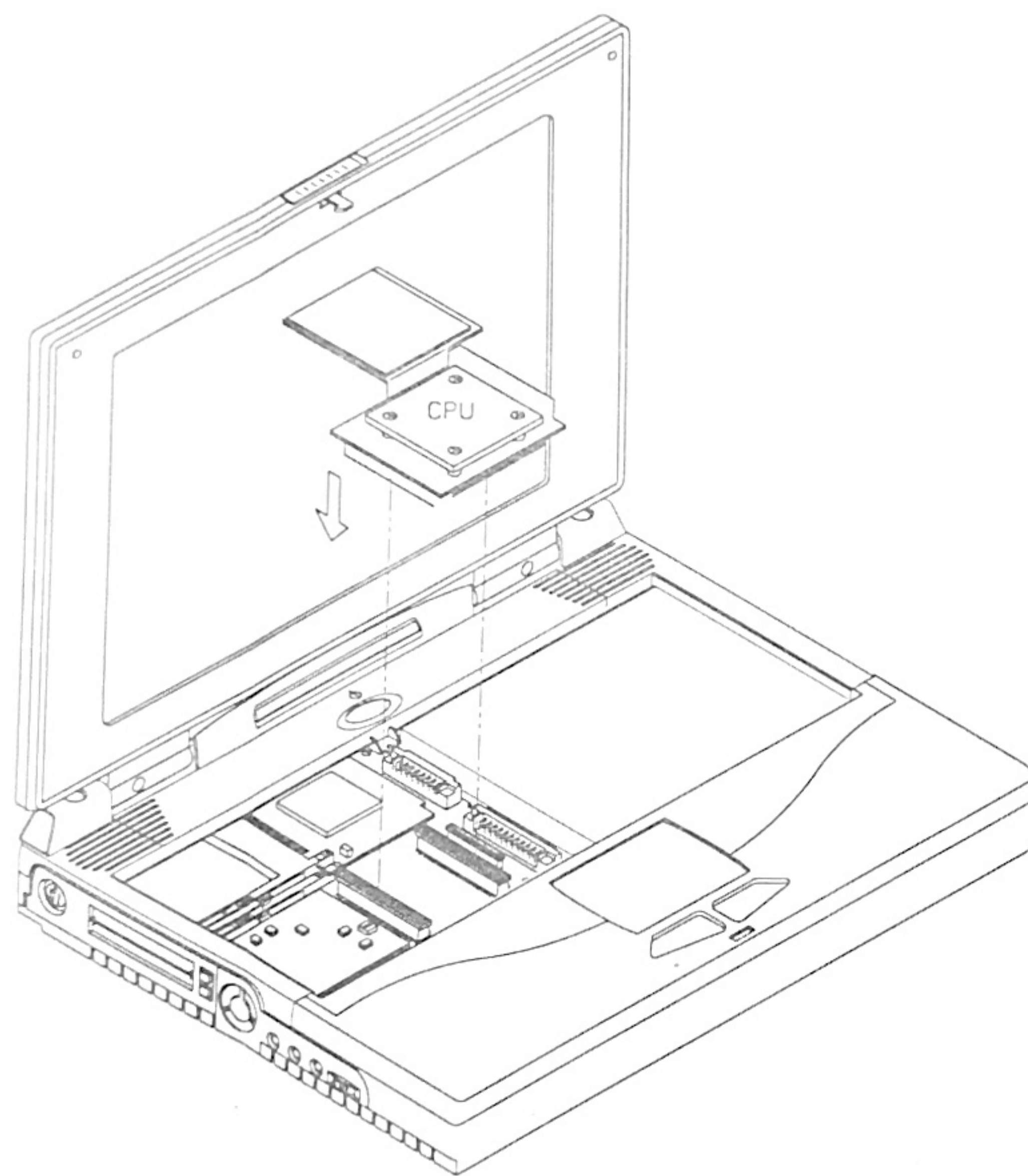


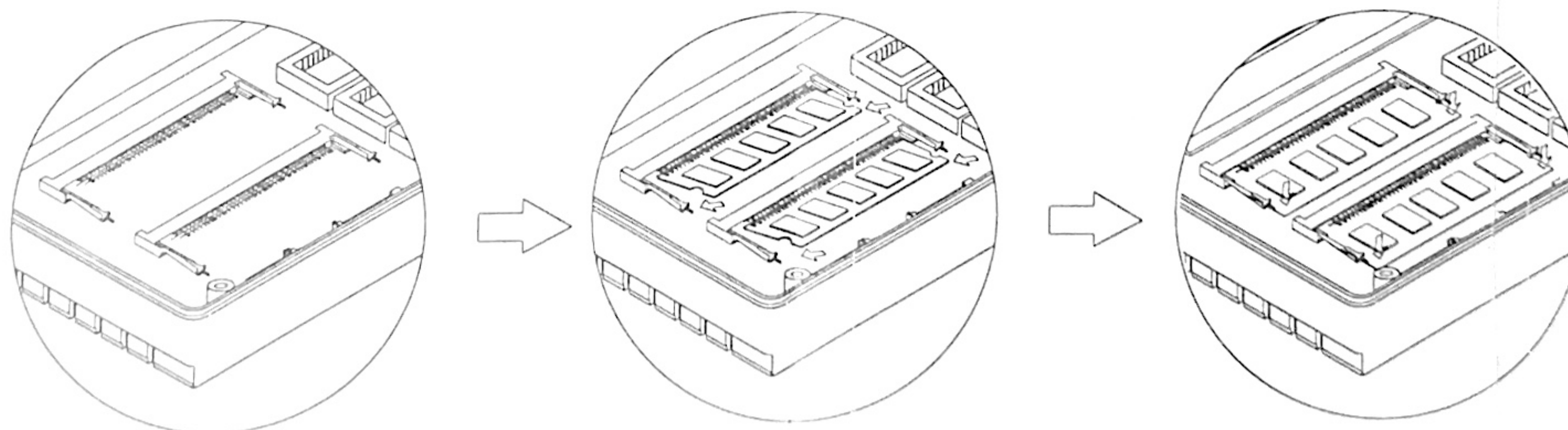
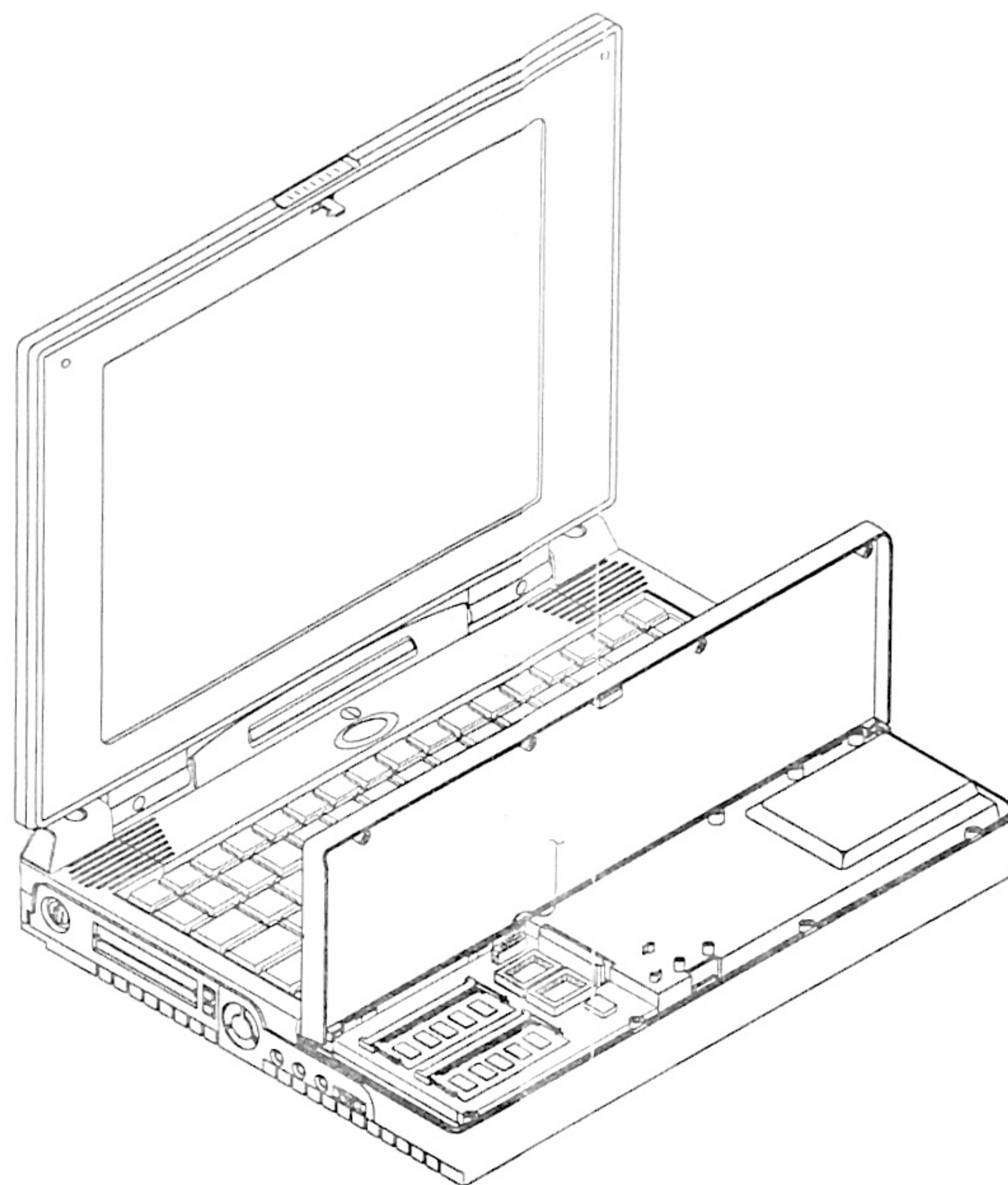
No.	PART NO.	DESCRIPTION	Q'ty
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2	R0G7353010100	FRONT COVER G735	1

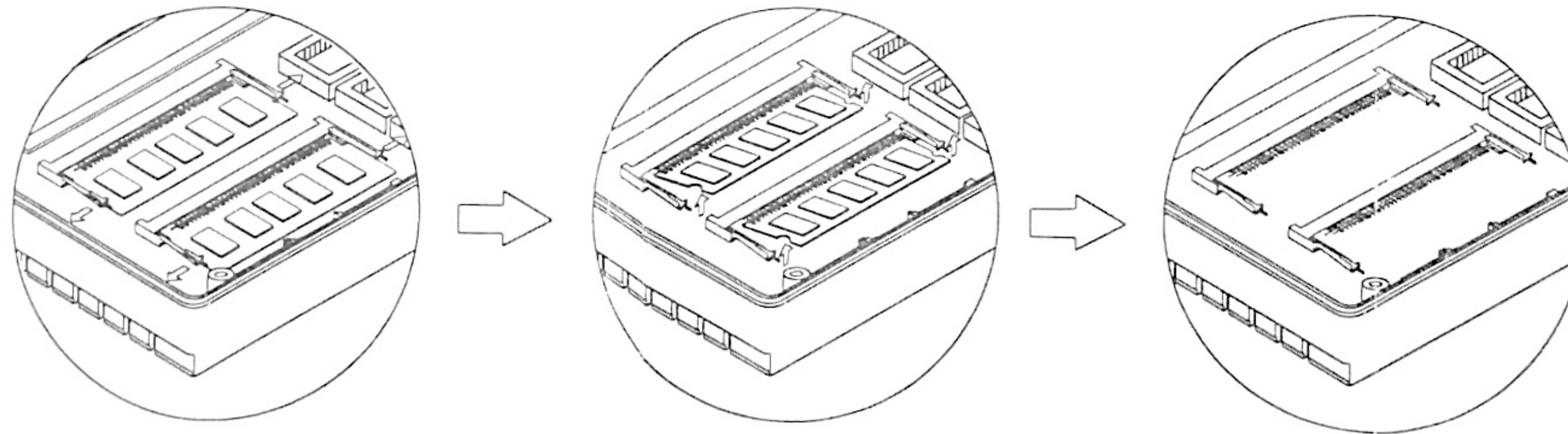
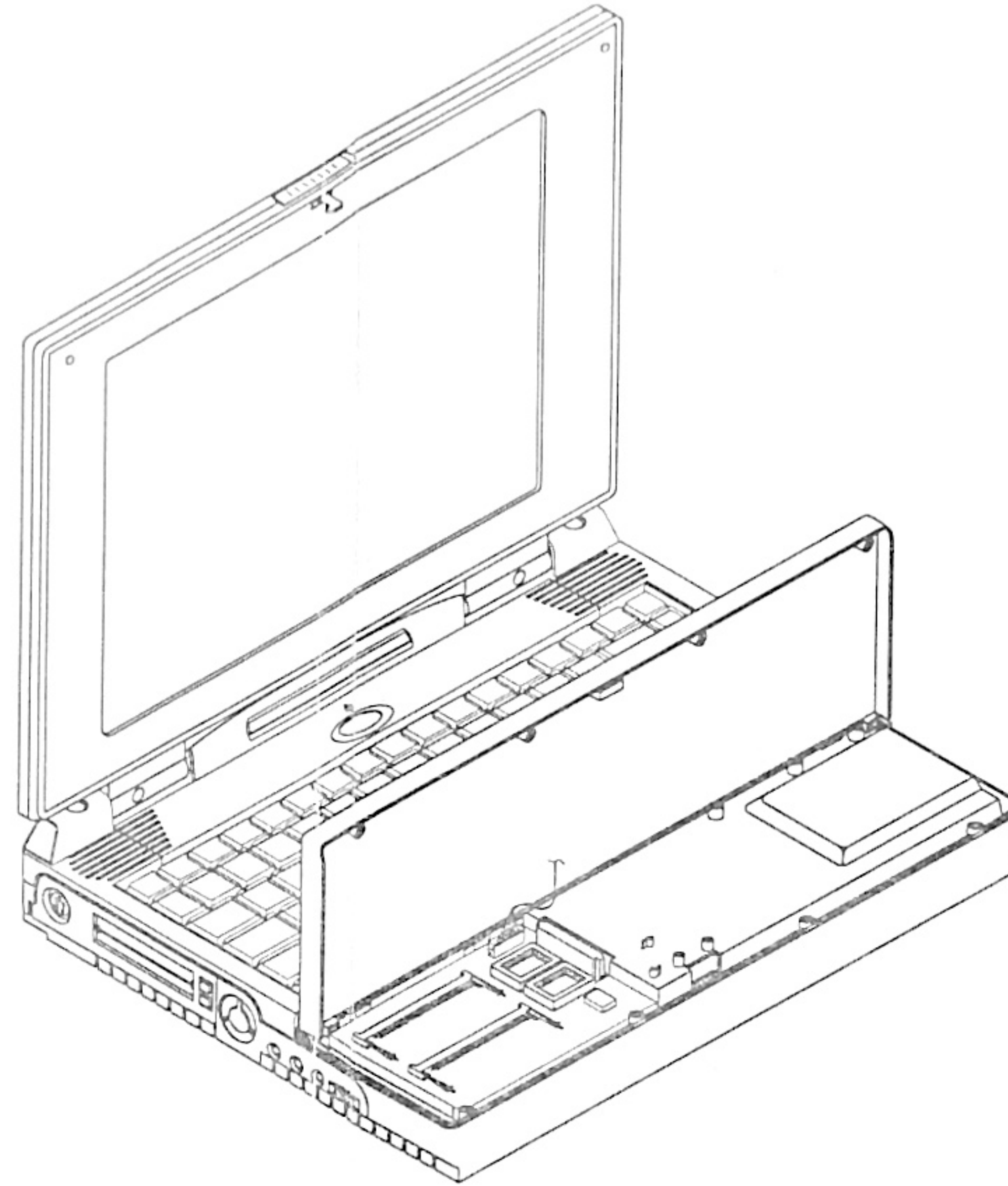


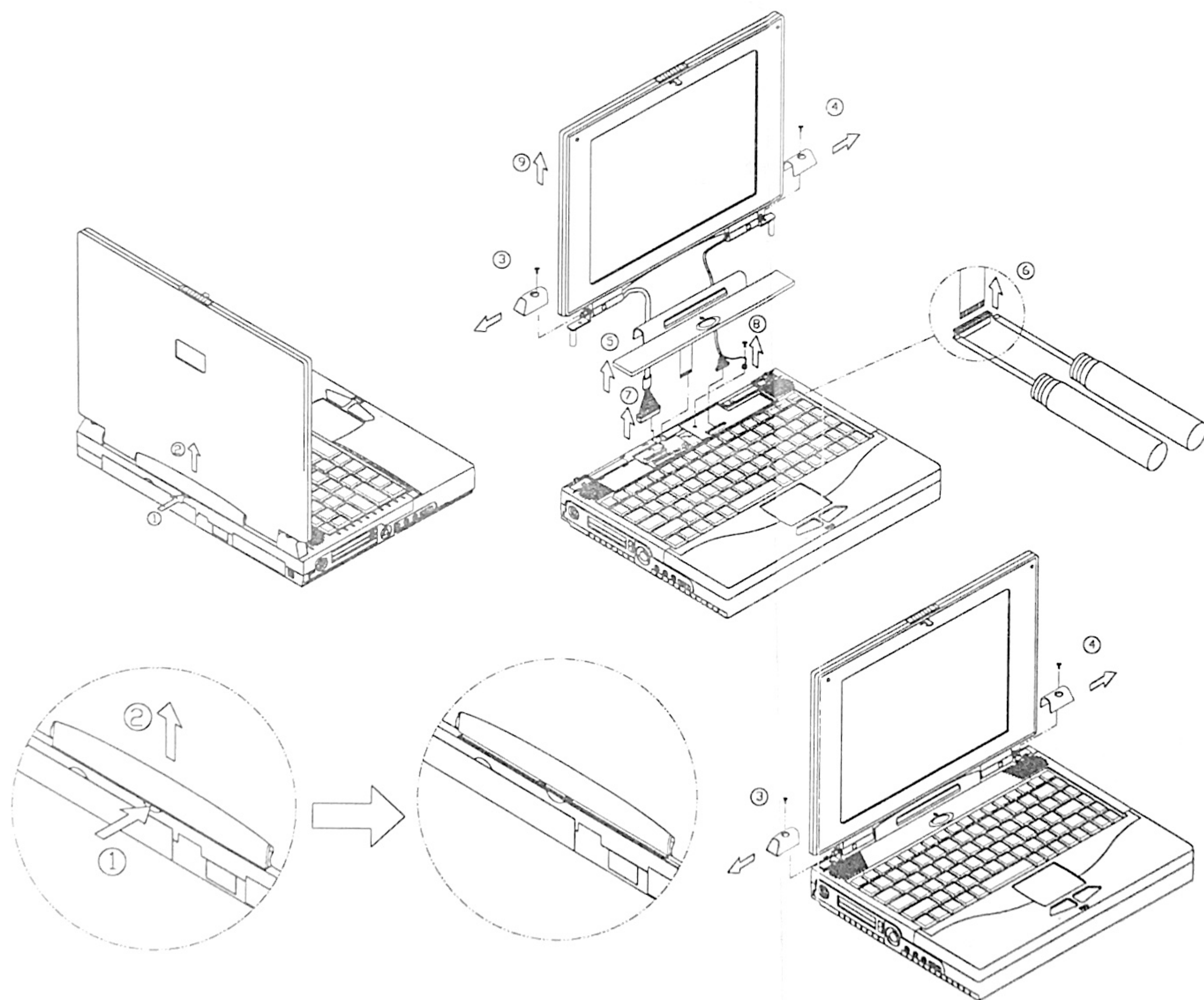
No.	PART NO.	DESCRIPTION	Q'ty
1	SA010F06R0001	SCREW P M3X0.5X15 NI(NYLOK)	4
2	R0G7353010100	FRONT COVER G735	1
3	JF00301010001	K.B 89K US K950528A JME	1
4	SA0B02120000A	SCREW I M2X0.4X20 (NYLOK)	1
4	R3G7350101000	HEAT PIPE MODULE G735	1



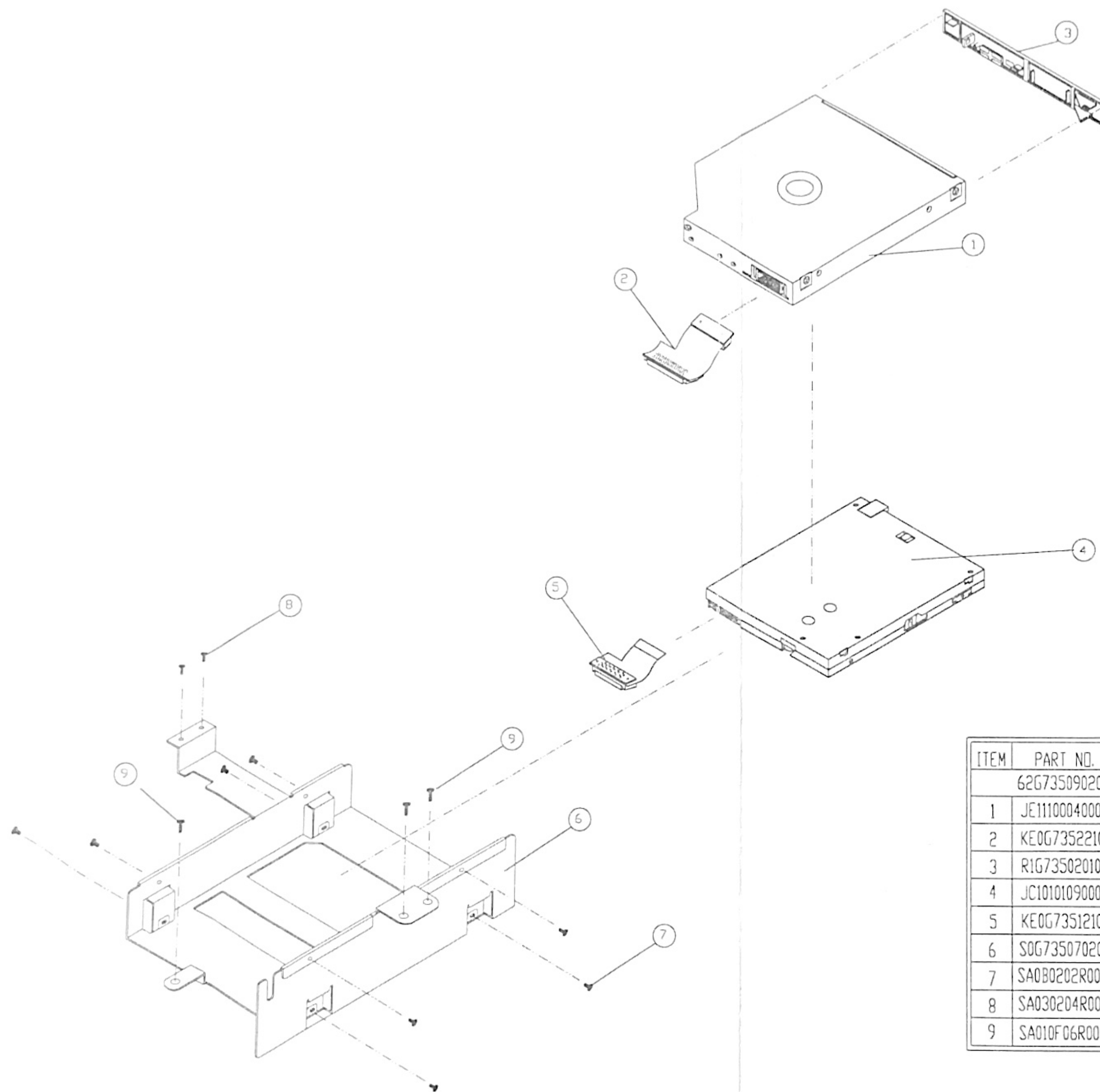






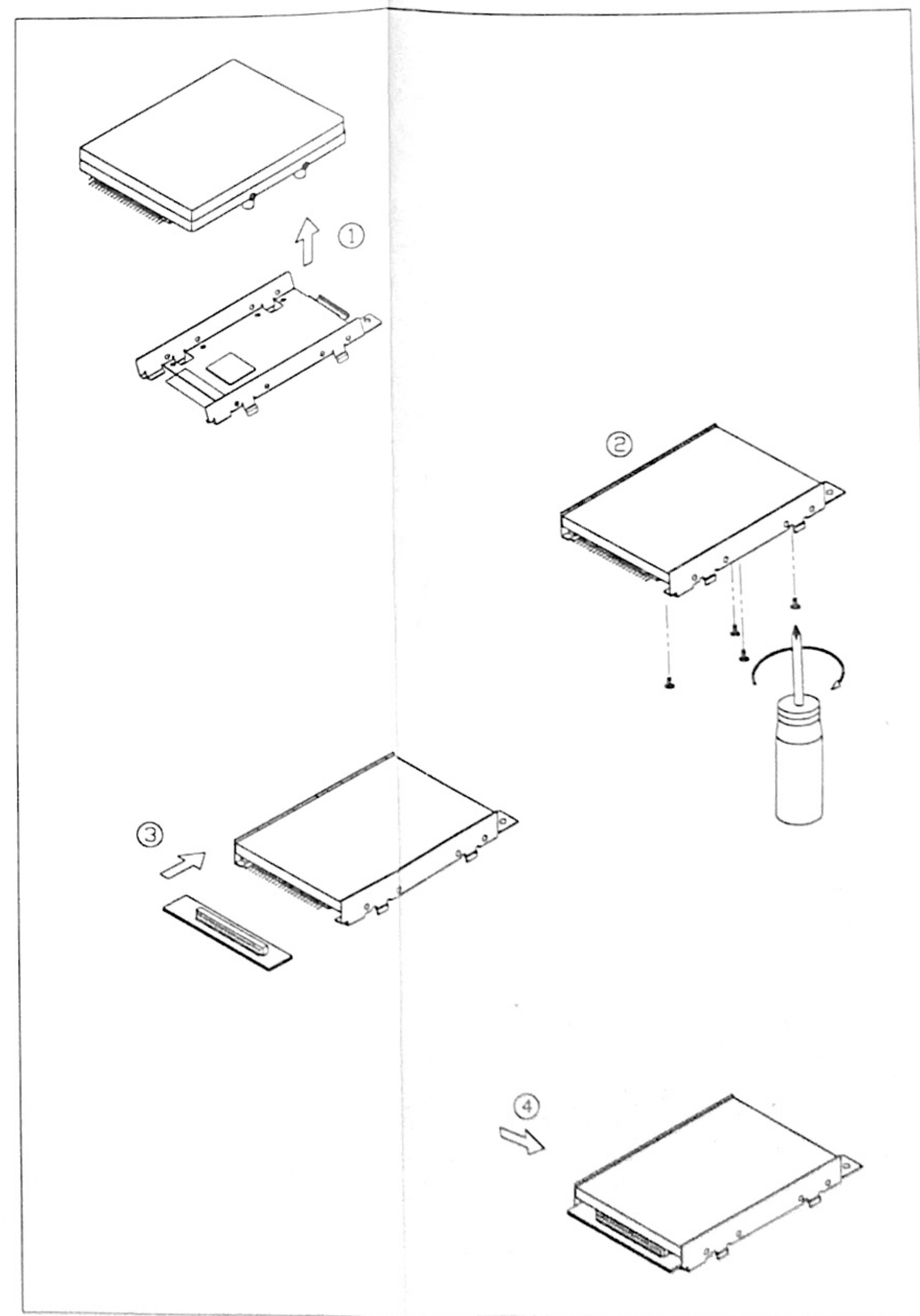
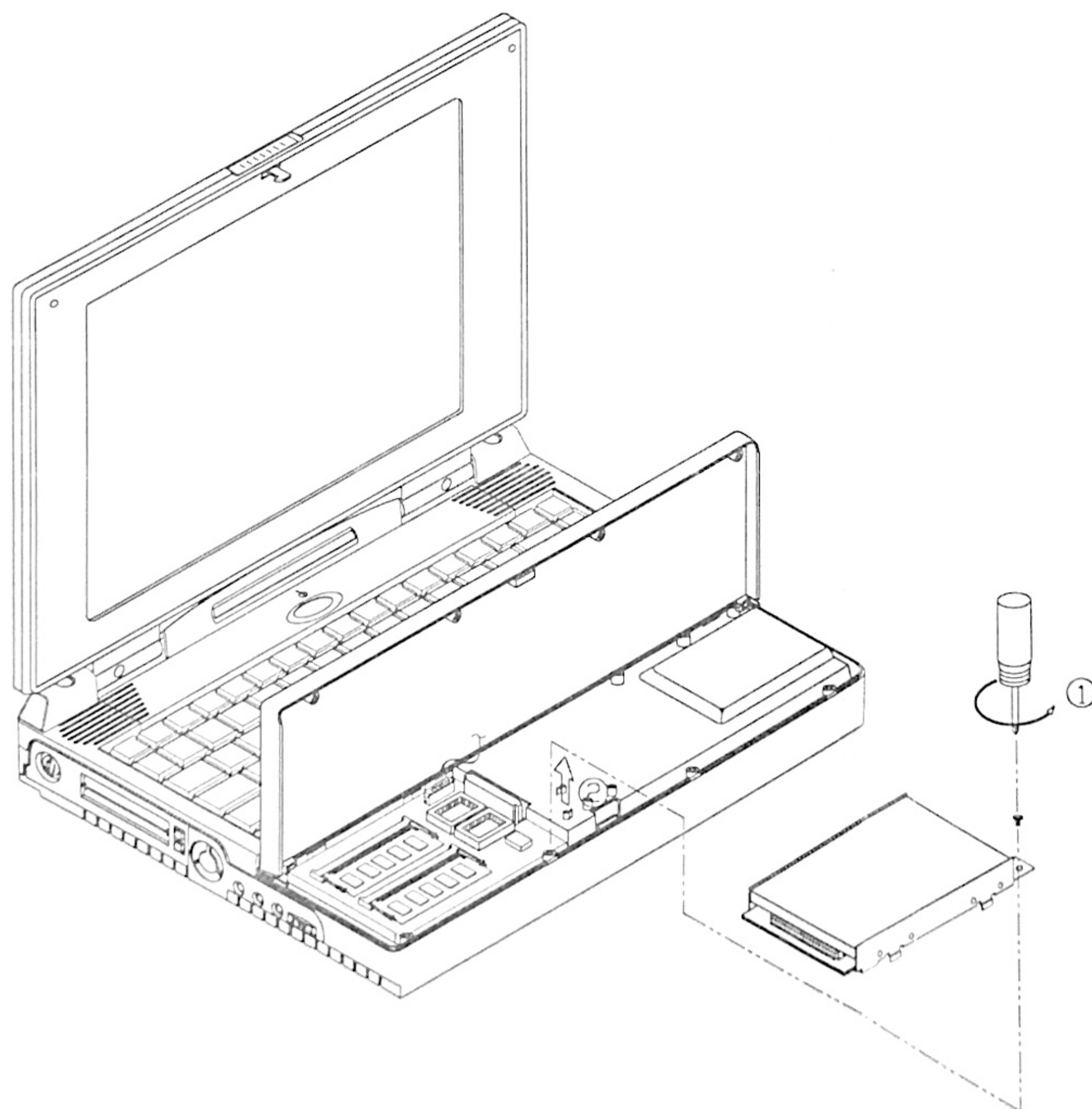


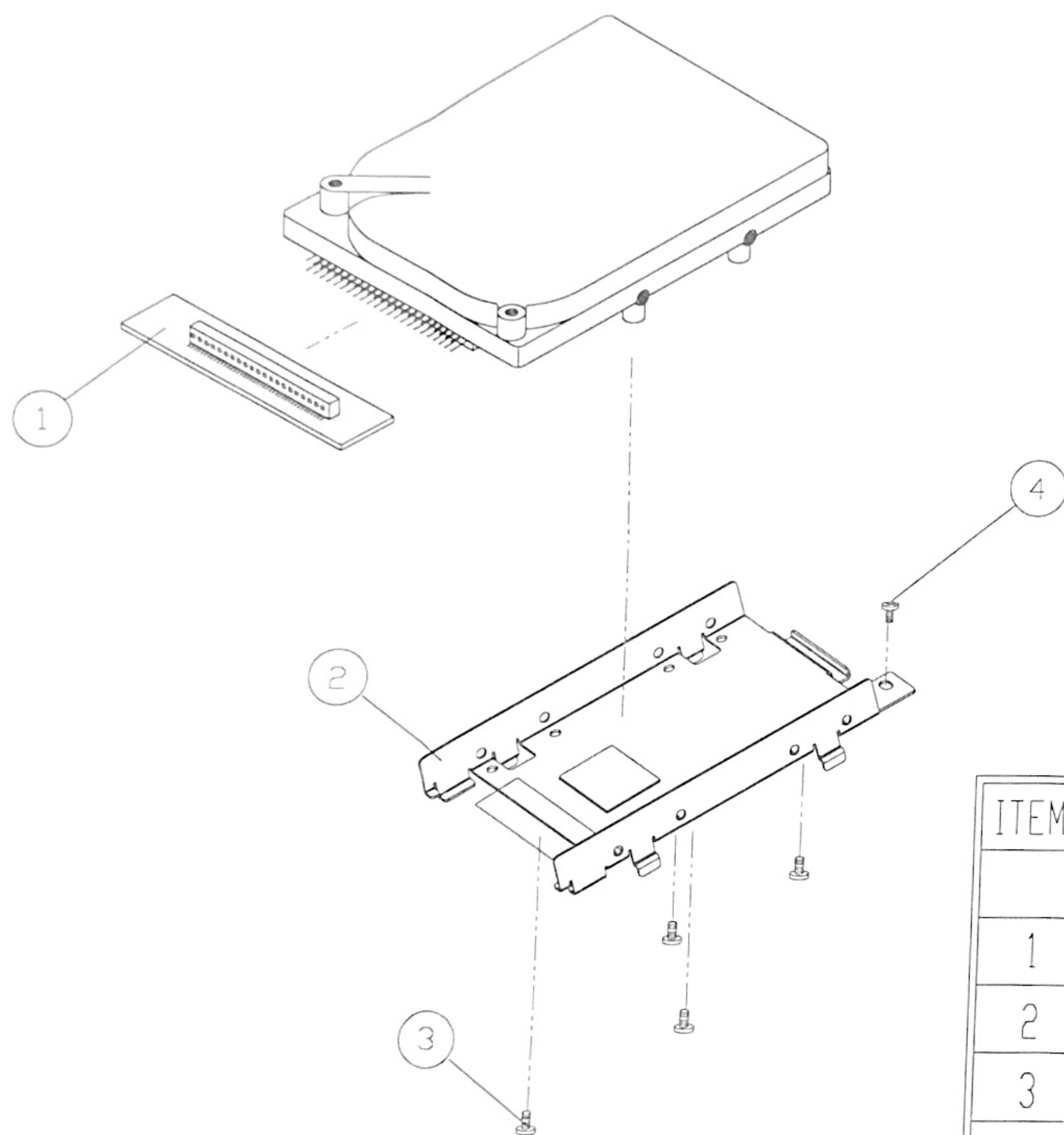
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1	R0G7354030100	COVER LCM G735 MAX	1
2	R0G7564060200	COVER HINGE G756 MAX	2
3	R0G7354030100	COVER LCM G735 MAX	1
4	CONN		1
5	HPG7560107000	CABLE LCD T12.1 SAM G756	1
6	SA030204R0001	SCREW B M2.0X0.4X4	1
7	62G7350102000	ASS'Y LCD MODULE TFT SAMSUNG 12.1" SVGA G735	1



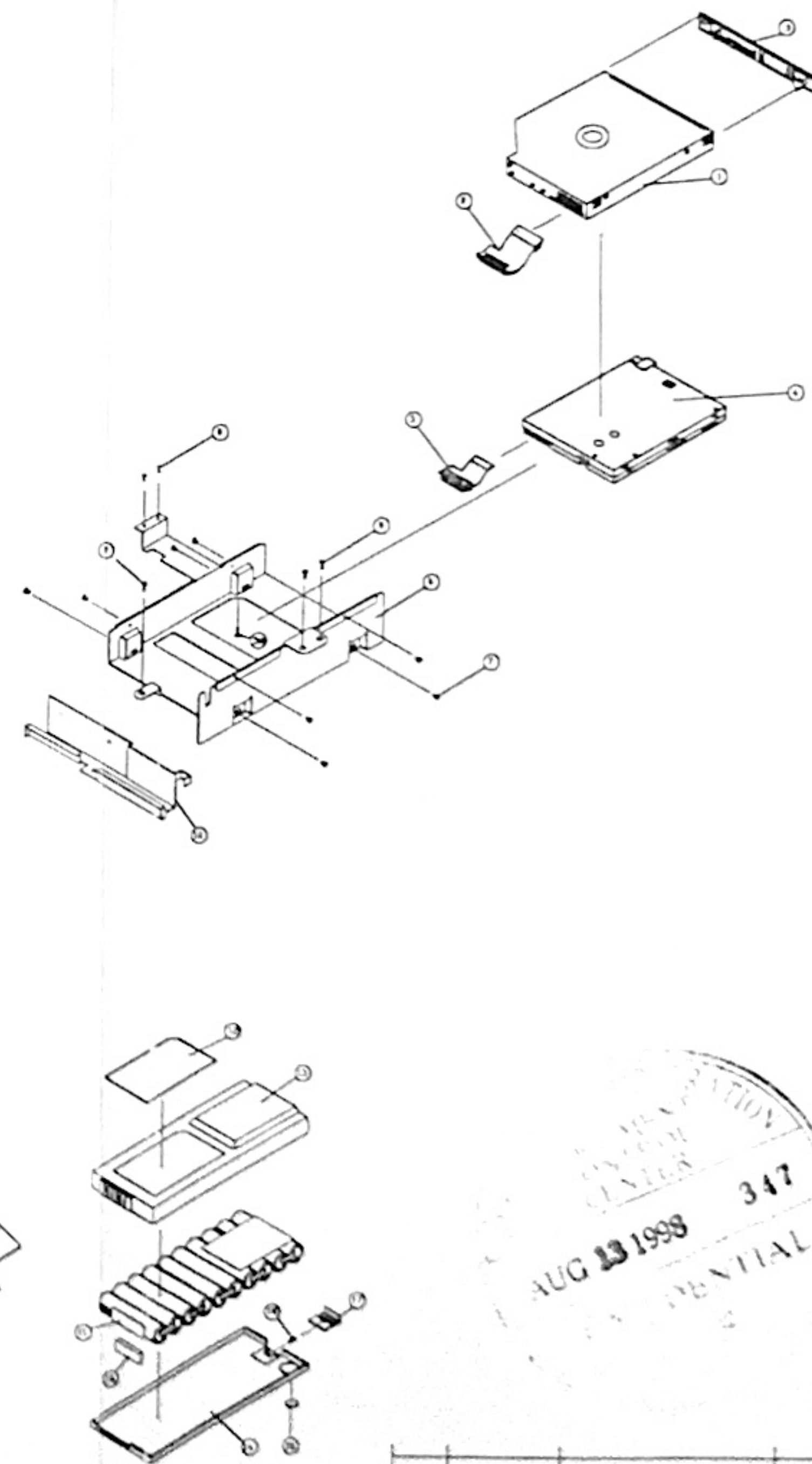
ITEM	PART NO.	DESCRIPTION	QTY
	62G7350902000	ASS'Y COMBO (CD-ROM 24X + FDD) G735	
1	JE11100040006	CD-ROM 24X UJDA150-XX MATSUSHITA	1
2	KE0G735221010	FPC CD-ROM G735	1
3	R1G7350201000	BEZEL CD-ROM MAT BLACK G735	1
4	JC10101090003	FDD MITSUMI D353F3 1.44 35'	1
5	KE0G735121010	FPC FDD G735	1
6	S0G7350702000	BRACKET COMBO G735	1
7	SA0B0202R0005	SCREW I M2X0.4X2 NI(NYLON)	8
8	SA030204R0001	SCREW B M2*0.4*4	2
9	SA010F06R0001	SCREW P M2.6*0.45*6 NI	3

No.	PART NO.	DESCRIPTION	Q'ty
1	SA030204R0001	SCREW B M2X0.4X4 NI	1
2	62G7350501000	ASS'Y HDD KIT MODULE G756	1





ITEM	PART NO.	DESCRIPTION	QTY
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1	40G7551300000	PCBA HDDI DIP V0 G755	1
2	S0G7350707000	BRACKET HDD G735	1
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4	SA030204R0001	SCREW B M2X0.4X4 NI	1

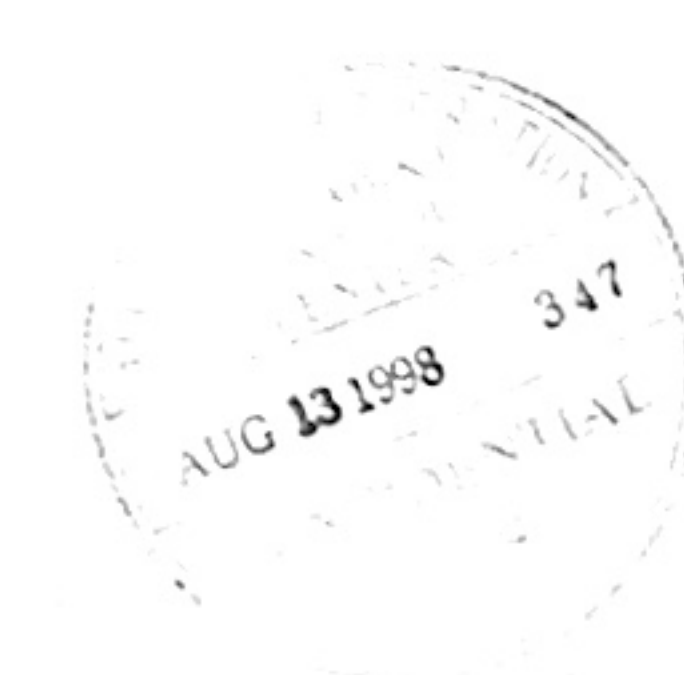
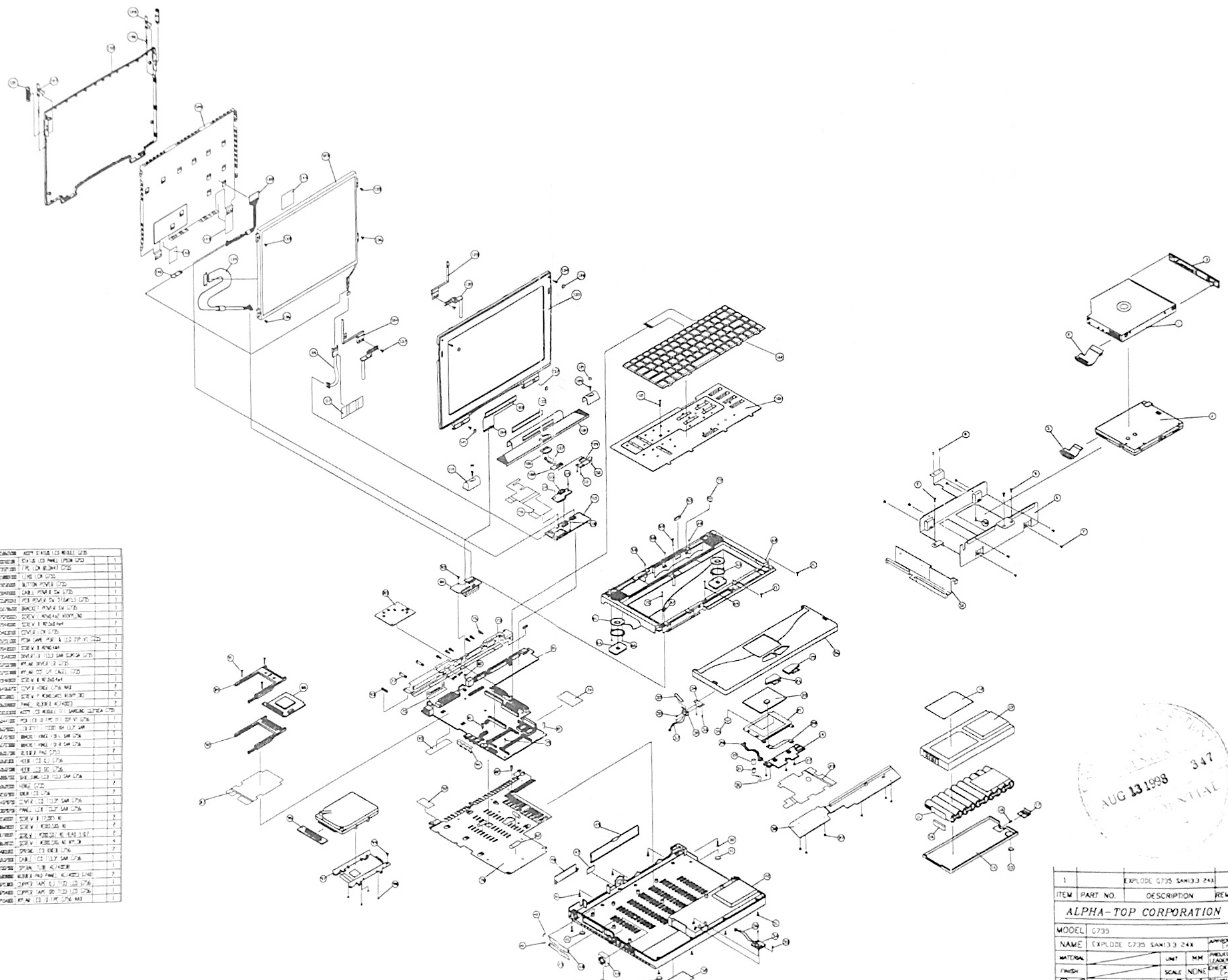
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AUG 13 1998 347
 CONFIDENTIAL

1		EXPLODE 0735 SAN121 24X	
ITEM	PART NO.	DESCRIPTION	REMARK
<u>ALPHA-TOP CORPORATION</u>			
MODEL	0735		
NAME	EXPLODE 0735 SAN121 24X		APPROVE 
MATERIAL		UNIT MM	PROJECT 
FINISH		SCALE NONE	CHECK 
	THE 3RD PROJECTION		DRAWN 
ORIG. NO.	0735-3-1-02		DATE 22/12/2007
			REV. NO. 12

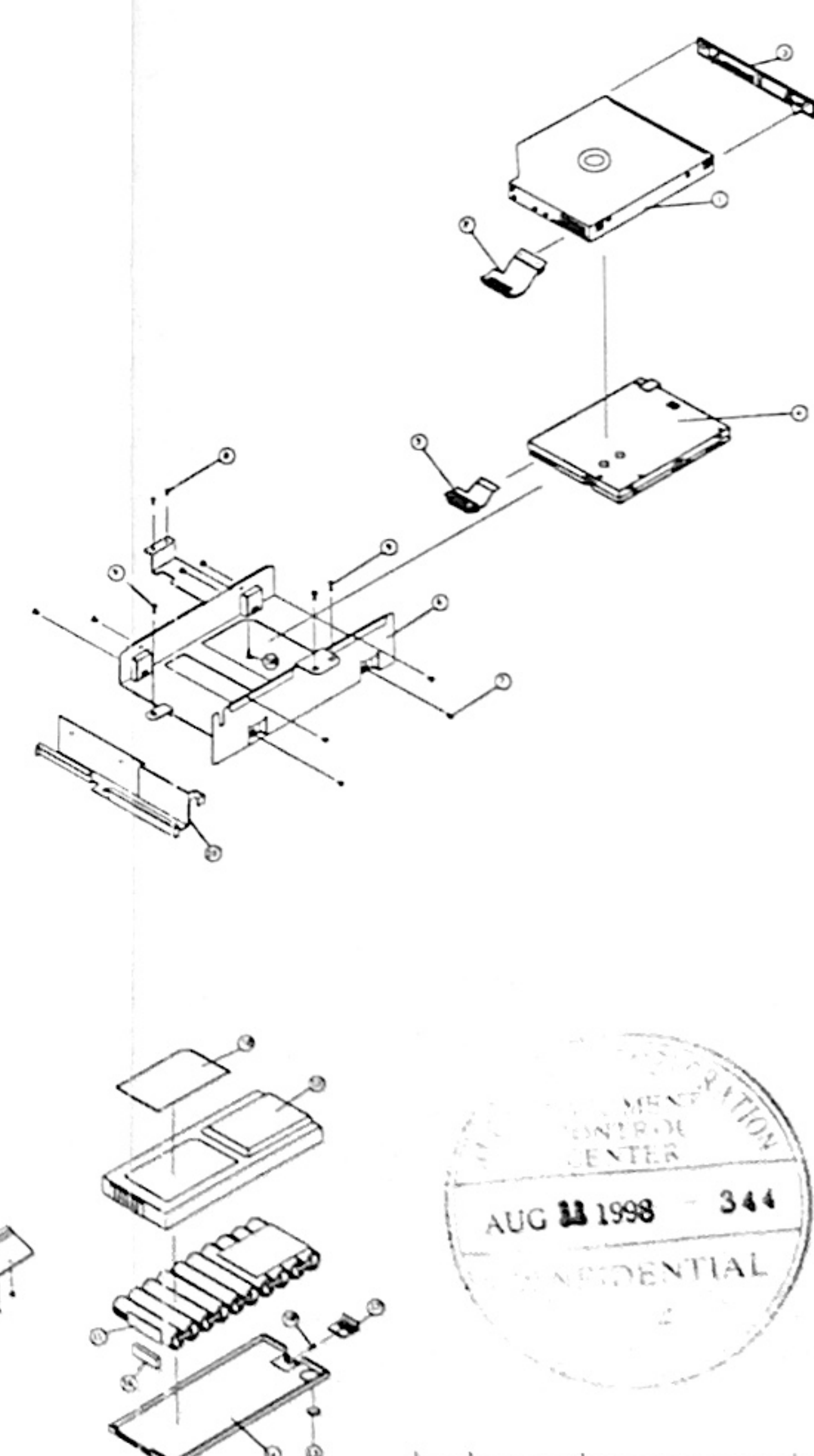
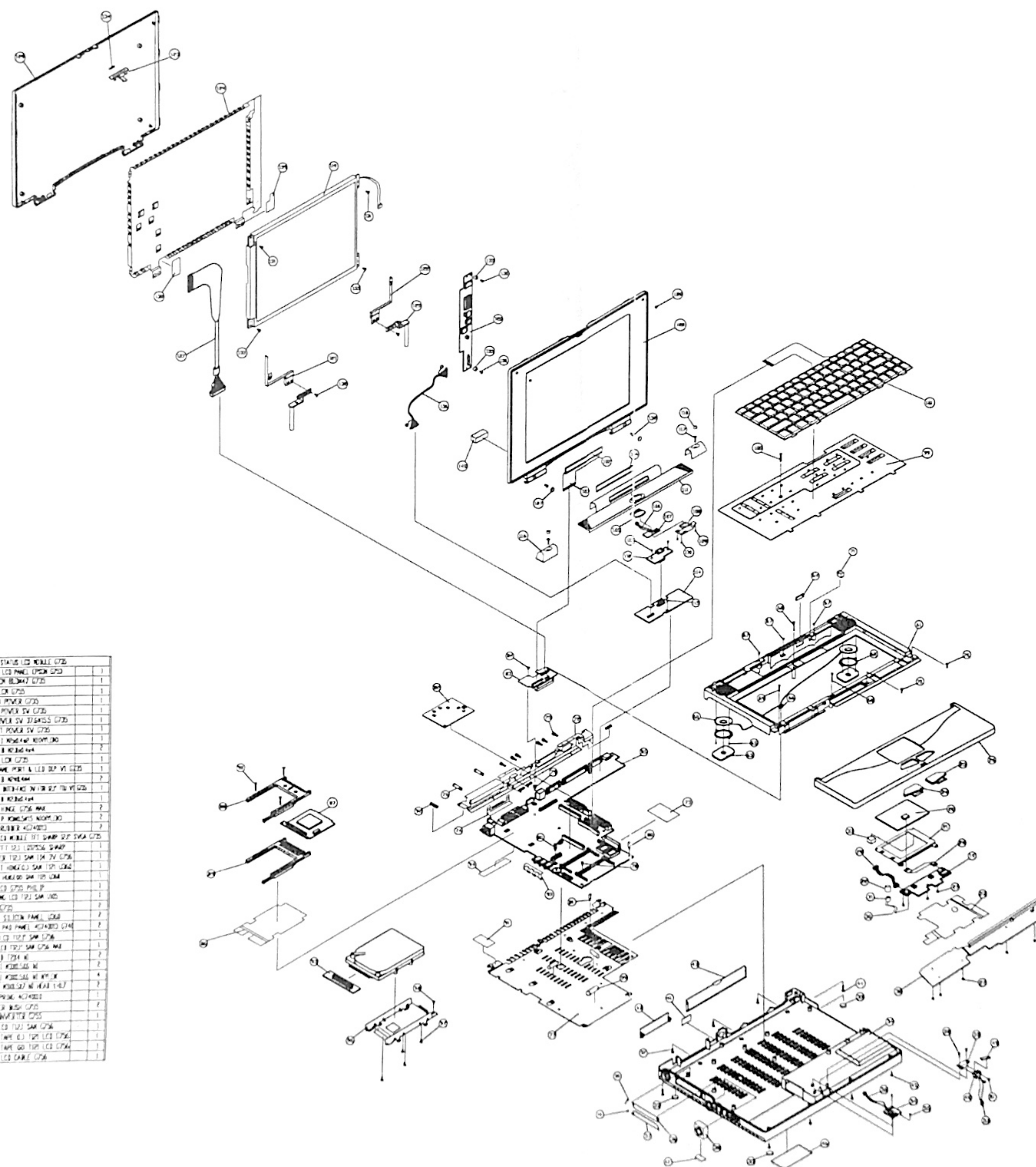
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1	FORMAL RELEASE	10/1/78
2	ORIGINAL DRAWING	10/1/78
3	REV	DESCRIPTION
4	HISTORY	

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5	EXPLODE 0735 SAN133 24X	10/1/78
6	EXPLODE 0735 SAN133 24X	10/1/78
7	EXPLODE 0735 SAN133 24X	10/1/78
8	EXPLODE 0735 SAN133 24X	10/1/78
9	EXPLODE 0735 SAN133 24X	10/1/78
10	EXPLODE 0735 SAN133 24X	10/1/78
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43	EXPLODE 0735 SAN133 24X	10/1/78
44	EXPLODE 0735 SAN133 24X	10/1/78
45	EXPLODE 0735 SAN133 24X	10/1/78
46	EXPLODE 0735 SAN133 24X	10/1/78
47	EXPLODE 0735 SAN133 24X	10/1/78
48	EXPLODE 0735 SAN133 24X	10/1/78
49	EXPLODE 0735 SAN133 24X	10/1/78
50	EXPLODE 0735 SAN133 24X	10/1/78
51	EXPLODE 0735 SAN133 24X	10/1/78
52	EXPLODE 0735 SAN133 24X	10/1/78
53	EXPLODE 0735 SAN133 24X	10/1/78
54	EXPLODE 0735 SAN133 24X	10/1/78
55	EXPLODE 0735 SAN133 24X	10/1/78
56	EXPLODE 0735 SAN133 24X	10/1/78
57	EXPLODE 0735 SAN133 24X	10/1/78
58	EXPLODE 0735 SAN133 24X	10/1/78
59	EXPLODE 0735 SAN133 24X	10/1/78
60	EXPLODE 0735 SAN133 24X	10/1/78
61	EXPLODE 0735 SAN133 24X	10/1/78
62	EXPLODE 0735 SAN133 24X	10/1/78
63	EXPLODE 0735 SAN133 24X	10/1/78
64	EXPLODE 0735 SAN133 24X	10/1/78
65	EXPLODE 0735 SAN133 24X	10/1/78
66	EXPLODE 0735 SAN133 24X	10/1/78
67	EXPLODE 0735 SAN133 24X	10/1/78
68	EXPLODE 0735 SAN133 24X	10/1/78
69	EXPLODE 0735 SAN133 24X	10/1/78
70	EXPLODE 0735 SAN133 24X	10/1/78
71	EXPLODE 0735 SAN133 24X	10/1/78
72	EXPLODE 0735 SAN133 24X	10/1/78
73	EXPLODE 0735 SAN133 24X	10/1/78
74	EXPLODE 0735 SAN133 24X	10/1/78
75	EXPLODE 0735 SAN133 24X	10/1/78
76	EXPLODE 0735 SAN133 24X	10/1/78
77	EXPLODE 0735 SAN133 24X	10/1/78
78	EXPLODE 0735 SAN133 24X	10/1/78
79	EXPLODE 0735 SAN133 24X	10/1/78
80	EXPLODE 0735 SAN133 24X	10/1/78
81	EXPLODE 0735 SAN133 24X	10/1/78
82	EXPLODE 0735 SAN133 24X	10/1/78
83	EXPLODE 0735 SAN133 24X	10/1/78
84	EXPLODE 0735 SAN133 24X	10/1/78
85	EXPLODE 0735 SAN133 24X	10/1/78
86	EXPLODE 0735 SAN133 24X	10/1/78
87	EXPLODE 0735 SAN133 24X	10/1/78
88	EXPLODE 0735 SAN133 24X	10/1/78
89	EXPLODE 0735 SAN133 24X	10/1/78
90	EXPLODE 0735 SAN133 24X	10/1/78
91	EXPLODE 0735 SAN133 24X	10/1/78
92	EXPLODE 0735 SAN133 24X	10/1/78
93	EXPLODE 0735 SAN133 24X	10/1/78
94	EXPLODE 0735 SAN133 24X	10/1/78
95	EXPLODE 0735 SAN133 24X	10/1/78
96	EXPLODE 0735 SAN133 24X	10/1/78
97	EXPLODE 0735 SAN133 24X	10/1/78
98	EXPLODE 0735 SAN133 24X	10/1/78
99	EXPLODE 0735 SAN133 24X	10/1/78
100	EXPLODE 0735 SAN133 24X	10/1/78



1	EXPLODE 0735 SAN133 24X		
ITEM	PART NO.	DESCRIPTION	REMARK
ALPHA-TOP CORPORATION			
MODEL	G735		
NAME	EXPLODE 0735 SAN133 24X		APPENDIX C-2
MATERIAL		UNIT	MM
FINISH		SCALE	NONE
	THE 3RD PROJECTION		DEWY SCALE
	DATE		10/1/78
DWG. NO.	G735-5-1-04		REV. 3

1	007-252-222	ASTY STAGE 10 KILLE CTS	
2	007-252-222	STAGE 10 KILLE CTS	1
3	007-252-222	STAGE 10 KILLE CTS	1
4	007-252-222	STAGE 10 KILLE CTS	1
5	007-252-222	STAGE 10 KILLE CTS	1
6	007-252-222	STAGE 10 KILLE CTS	1
7	007-252-222	STAGE 10 KILLE CTS	1
8	007-252-222	STAGE 10 KILLE CTS	1
9	007-252-222	STAGE 10 KILLE CTS	1
10	007-252-222	STAGE 10 KILLE CTS	1
11	007-252-222	STAGE 10 KILLE CTS	1
12	007-252-222	STAGE 10 KILLE CTS	1
13	007-252-222	STAGE 10 KILLE CTS	1
14	007-252-222	STAGE 10 KILLE CTS	1
15	007-252-222	STAGE 10 KILLE CTS	1
16	007-252-222	STAGE 10 KILLE CTS	1
17	007-252-222	STAGE 10 KILLE CTS	1
18	007-252-222	STAGE 10 KILLE CTS	1
19	007-252-222	STAGE 10 KILLE CTS	1
20	007-252-222	STAGE 10 KILLE CTS	1
21	007-252-222	STAGE 10 KILLE CTS	1
22	007-252-222	STAGE 10 KILLE CTS	1
23	007-252-222	STAGE 10 KILLE CTS	1
24	007-252-222	STAGE 10 KILLE CTS	1
25	007-252-222	STAGE 10 KILLE CTS	1
26	007-252-222	STAGE 10 KILLE CTS	1
27	007-252-222	STAGE 10 KILLE CTS	1
28	007-252-222	STAGE 10 KILLE CTS	1
29	007-252-222	STAGE 10 KILLE CTS	1
30	007-252-222	STAGE 10 KILLE CTS	1
31	007-252-222	STAGE 10 KILLE CTS	1
32	007-252-222	STAGE 10 KILLE CTS	1
33	007-252-222	STAGE 10 KILLE CTS	1
34	007-252-222	STAGE 10 KILLE CTS	1
35	007-252-222	STAGE 10 KILLE CTS	1
36	007-252-222	STAGE 10 KILLE CTS	1
37	007-252-222	STAGE 10 KILLE CTS	1
38	007-252-222	STAGE 10 KILLE CTS	1
39	007-252-222	STAGE 10 KILLE CTS	1
40	007-252-222	STAGE 10 KILLE CTS	1
41	007-252-222	STAGE 10 KILLE CTS	1
42	007-252-222	STAGE 10 KILLE CTS	1
43	007-252-222	STAGE 10 KILLE CTS	1
44	007-252-222	STAGE 10 KILLE CTS	1
45	007-252-222	STAGE 10 KILLE CTS	1
46	007-252-222	STAGE 10 KILLE CTS	1
47	007-252-222	STAGE 10 KILLE CTS	1
48	007-252-222	STAGE 10 KILLE CTS	1
49	007-252-222	STAGE 10 KILLE CTS	1
50	007-252-222	STAGE 10 KILLE CTS	1



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1	EXPLODE 6735 SHP121 24X		
ITEM	PART NO.	DESCRIPTION	REMARK
ALPHA-TOP CORPORATION			
MODEL	G735		
NAME	EXPLODE 6735 SHP121 24X		APPROVE ERIC C
MATERIAL	UNIT	MM	PROJECT LEADER
FINISH	SCALE	NONE	CHECK P.C.V
	THE 3RD PROJECTION		DATE 1999.11.12
DWG. NO.	G735-S-1-26	SHEET	1/2

